DDP 184
Digital Document Publisher

Controller Maintenance Manual

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NOTICE TO USER

In an effort to meet the demands of a rapidly changing technology, the manufacturer is continually developing new features and functions to meet your changing printing or printer needs. As a result, this manual may not exactly reflect future changes made to the product. Please be sure to consult all manual updates or addenda when using this product's documentation.

Revision Table

Manual Rev.	Machine Rev.	Page No.	Date
00	-	First Edition	May.2005
01	-	3-9(01), 3-10(01), 5-6(01), 6-4(01), 6-12(01), 6-18(01), 6-26(01)	Oct.2005
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		3-4(01): Revised the Table	
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Manual Rev.	Machine Rev.	Page No.	Date
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Manual Rev.	Machine Rev.	Page No.	Date
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		3-6(02): Added the explaination of 4 in Passwords.	
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Manual Rev.	Machine Rev.	Page No.	Date
08	-	3-6(03), 3-7(04)~3-9(04), 3-10(03): Changed page number for adding of Finisher and Container in Table 3-1.	Apr.2008
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Chapter 1
Introduction

About this Manual

The *Controller Maintenance Manual* is intended for certified service technicians servicing a printer. If you have not received service certification, you should not attempt to service the controller. The Company does not warrant the performance of the controller if serviced by non-certified personnel.

This manual is divided into the following sections:

- Chapter 1, “Introduction”

  Gives general information about this manual and general information that you should know before you service the controller.

- Chapter 2, “Printer Overview”

  Provides general information about the printer.

- Chapter 3, “Using the Operator Control Panel”

  Tells you how to use the Operator Control Panel for controller functions.

- Chapter 4, “Web Interface Functions”

  Tells you how to use the Web Interface for controller functions.

- Chapter 5, “Service Procedures”

  Describes removal and replacement procedures for the controller and controller board components.

- Chapter 6, “Troubleshooting Procedures”

  Identifies the source of common problems and suggests ways of correcting them.

Customers should not use the technical service documentation. Do not leave this manual behind after you make a service call.

The Illustrations in this Manual

Illustrations in this manual reflect the controller assembly at the time of publication. Components shown in these illustrations are subject to change. To receive information about any components that do not match illustrations in this manual, contact your authorized service/support center.

Terminology and Conventions

The term “network administrator” refers to the person responsible for maintaining the network at the customer site.

The term “Operator Control Panel” (OCP) describes the area on the front of the printer that has the display window (LCD–liquid crystal display).

The term “PC” refers to any IBM PC or compatible computer running Windows.

The term “10/100BaseT” is used throughout this manual to refer to 10/100BaseTX.

The term “controller” refers to the functional module that supports printing and associated features for the printer.

NOTE:
These statements highlight important messages and additional information.

CAUTION!
These statements indicate a need for special care and safety when handling the equipment.

WARNING!
These statements indicate a need for special care and safety to prevent you from harming yourself when carrying, unpacking, assembling, installing, or operating the product.

Precautions

Always observe the following general precautions when servicing the controller assembly:

1. Always disconnect power before opening the controller.

WARNING!
To avoid serious injury or death, disconnect the power cord from the power outlet. Do not attempt to perform any servicing operation when the power cord is connected to the power outlet. The AC line voltage is present inside the controller enclosure regardless of the main power switch position.

The power supply cable is used as the main disconnect device. Ensure that the wall outlet is located near the equipment and is easily accessible.

Zur sichren Trennung des Gerätes vom Netz ist der Netzstecker zu ziehen. Vergewissern Sie sich, daß die Stechdose leicht zugänglich ist.

Le cordon d’alimentation est utilisé comme interrupteur général. La prise de courant doit être située ou installée a proximité du matériel et être facile d’accés.

2. Never alter an existing network without permission.

   The controller is probably connected to an existing Local Area Network (LAN) based on Ethernet hardware. The network is the link between the customer's computer, existing laser printers, and other prepress equipment. Never disturb the LAN by breaking or making a network connection, altering termination, installing or removing networking hardware or software, or shutting down networked devices without the knowledge and express permission of the network administrator.

3. Never enter an IP address in Network Setup.

   Only the network administrator should enter an IP address on a network device. Assigning an incorrect IP address to the controller can cause unpredictable errors on any or all devices connected to the network.

4. Handle the OCP glass display window with care.

   If the glass on the OCP breaks and the liquid crystal inside leaks out, avoid contact with it. If you do come in contact with the liquid crystal, wash it off with soap and water immediately.

   Use a soft cloth moistened with isopropyl or ethyl alcohol to clean the glass display window. Other solvents, such as water, may damage the polarizer.

5. Follow standard ESD (electrostatic discharge) precautions while working on the internal components of the printer.

   Static is always a concern when servicing electronic devices. It is highly unlikely that the area around the printer is static-free. Carpeting, leather-soled shoes, synthetic clothing fibers, silks, and plastics may generate a static charge of more than 10,000 volts. Static discharge is capable of destroying the circuits etched in silicon microchips, or dramatically shortening their life span. By observing standard precautions, you may avoid extra service calls and save the cost of a new board.

   When possible, work on a ground-connected antistatic mat. Wear an antistatic wristband, grounded at the same place as the antistatic mat. If that is not possible:

   - ❒ Attach a grounding strap to your wrist. Attach the other end to a good ground.
   - ❒ When you remove an electronic component, place it into an antistatic bag immediately. Do not walk across a carpet or vinyl floor while carrying an unprotected board.
   - ❒ Leave new electronic components inside their antistatic bags until you are ready to install them.
   - ❒ When you unpack the electronic components, touch a metal area of the printer to discharge the static on your body. Place the components on a grounded antistatic surface, component-side up.

6. Handle printed circuit boards by their edges only, but avoid touching the contacts on the edge of the board.

7. Never set a cup of coffee—or any liquid—on or near any components or the printer.

Tools You Will Need

To service the controller, you should bring the following:

- ESD wrist grounding strap
- Antistatic mat
- #1 and #2 Phillips head screwdrivers (non-magnetic)
- 3/16" Hex nut driver and 4.5 mm Hex nut driver
- Small needlenose pliers
- Flashlight
- Ethernet Cable

  Standard: Category 5e/6 UTP
  Connecting Wires: Cross

- Operating Environment

  Windows NT 4.0, Windows 95/98, Windows 2000, Windows ME, Windows XP
  CD-ROM Drive
  10/100 Base T / 1000 Base T
  Web Browser

- This manual and any technical notes you may have for the controller

Chapter 2
Printer Overview

The controller provides computer connectivity and highly efficient printing capabilities for black and white printers. It is optimized for high-speed network communications, processing, rasterization, and printing of half-tone pages.

Features

The DDP 184 is a high-speed duplex printer with color capability. The System is composed of the following components:

- Front Engine with Controller
- Rear Engine with Controller
- DDP Server

A diagram of the controller system is shown in the following figure.

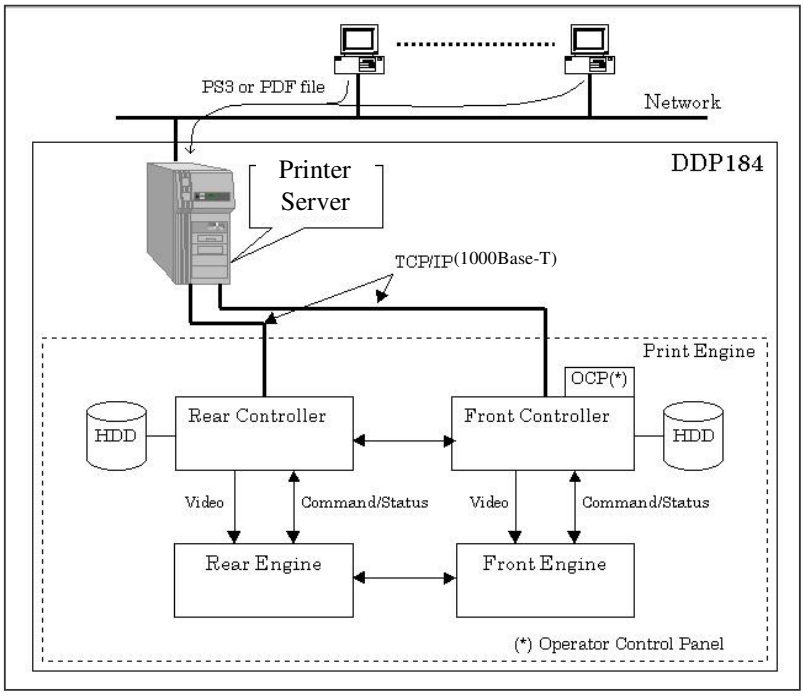


Figure 2-1. Controller Printing System

How the Controller Operates

The controller enables users to access the printer through the network and use it to print files using advanced spooling and job control functions. Users can print to the controller from a local networked PC running TCP/IP. The controller custom-designed boards and system software are responsible for efficient image processing and printing controls. The main functions of controller components and software are described below.

The controller uses a motherboard to process image data for printing images. The controller board includes a Power PC 750FX 800MHz microprocessor.

The DDR DIMM (dual in-line memory module) on the controller board holds image data during printing. The controller board is configured with 256MB of memory.

A diagram of the primary controller functions is shown on page 2-3

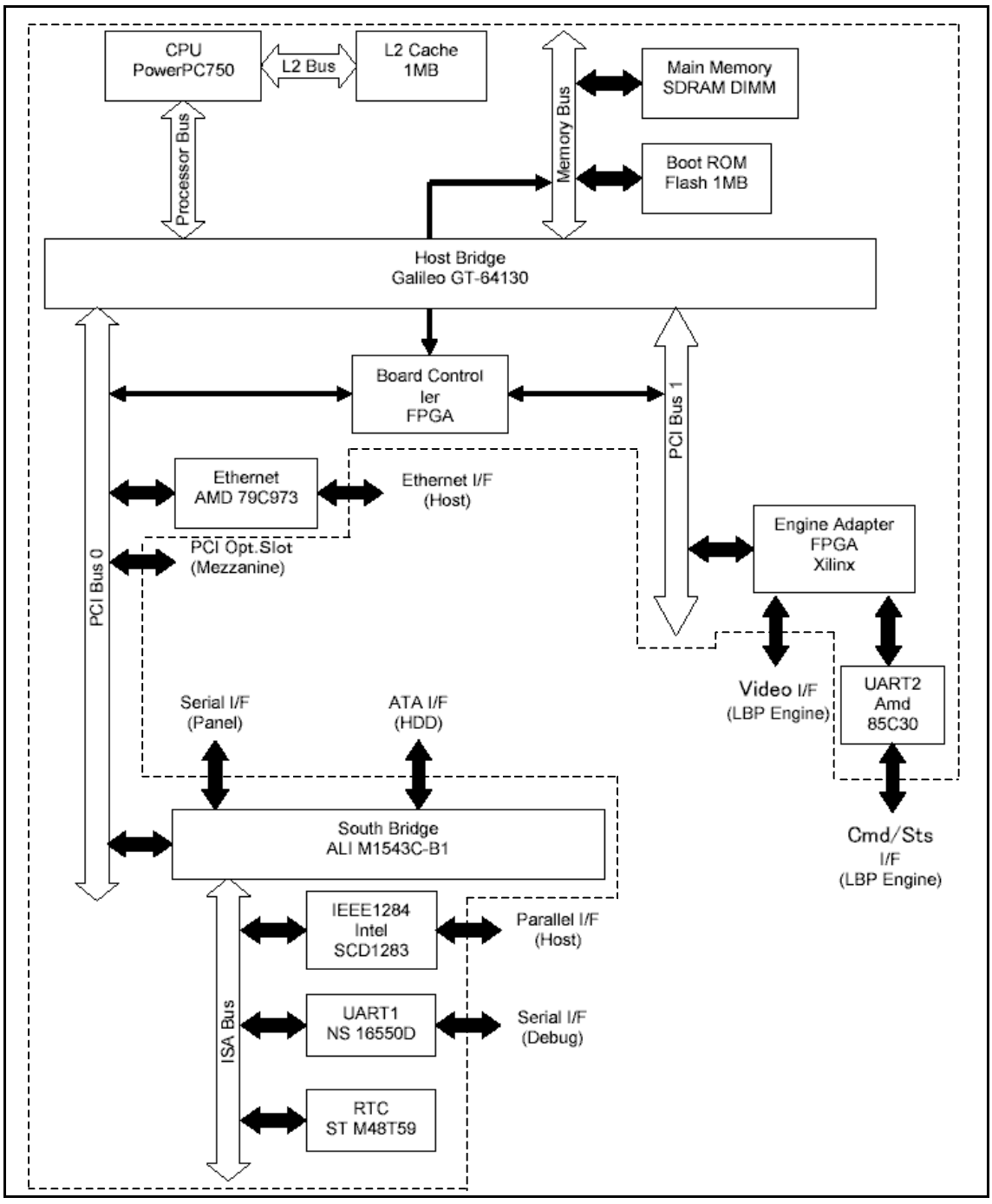


Figure 2-2. Controller Functional Diagram (CL106/CL107)

MM	L	0 1	

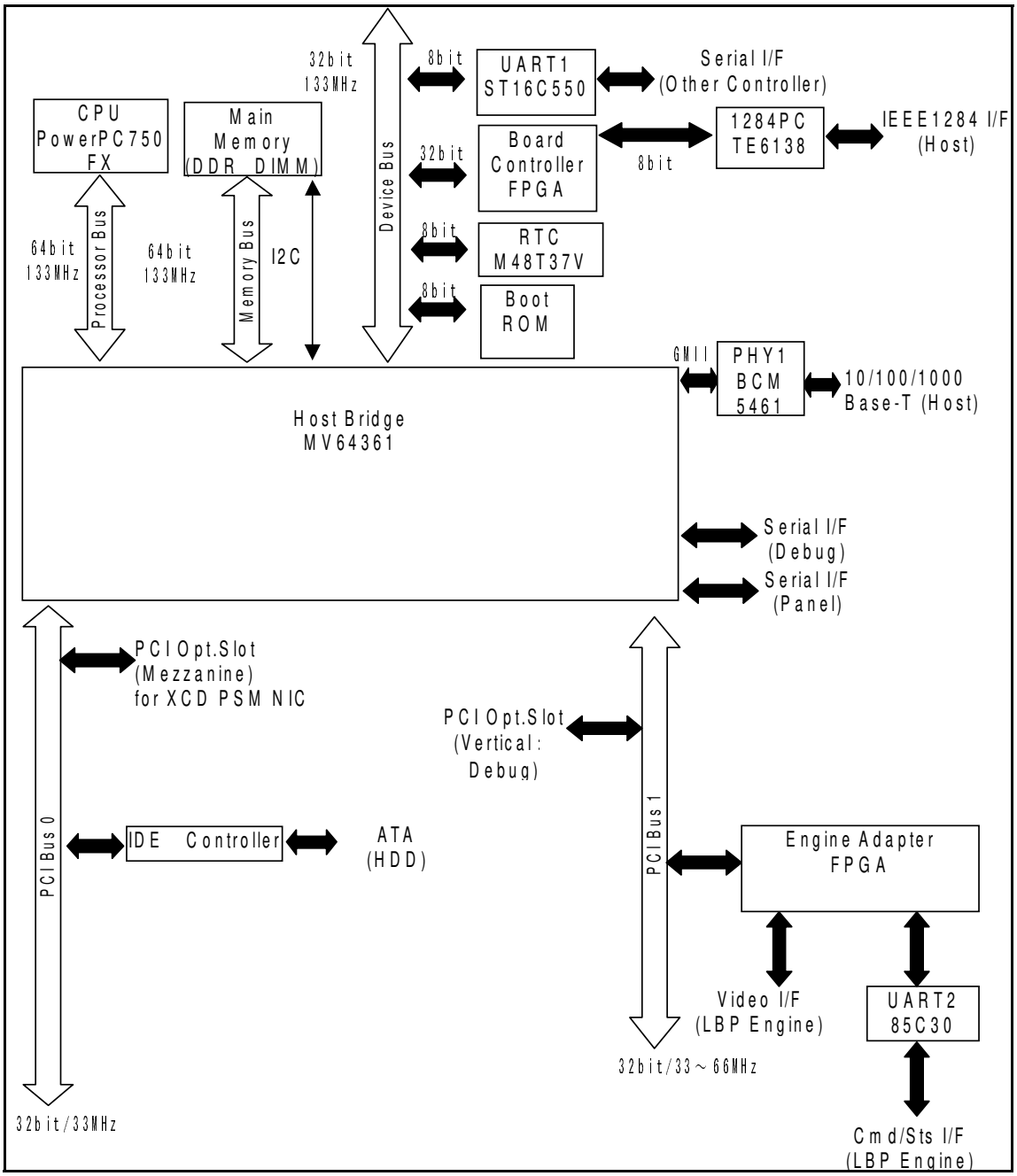


Figure 2-3. Controller Functional Diagram (CL143/CL144)

Print Options

The controller's efficient PCL capabilities allow customers to use a variety of applications to create printed pages of text and/or images over a network.

Base Controller

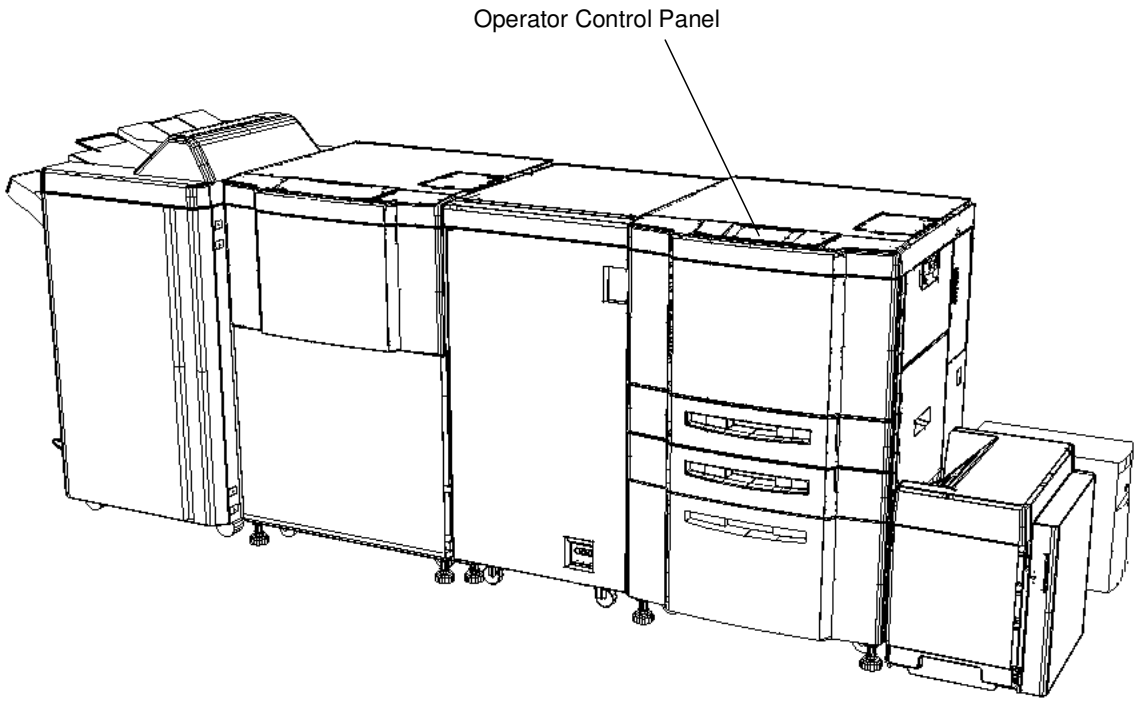
Item	Specification
Printable Area	Full size of the paper
Controller	PowerPC 750 375 MHz(CL106/CL107) PowerPC 750FX 800 MHz (CL143/CL144)
Memory Capacity	256 MB

Chapter 3
Using the Operator Control Panel

This section describes the controller functions on the Operator Control Panel (OCP). The OCP is located on the top of the printer. The icons on the OCP are used to access and monitor different features of the controller. Refer to the *User's Guide* for a complete description of the OCP.

The current Status and Setup information are displayed on the Operator Control Panel. Print activity can be monitored in the display window and specific controller functions (such as printing a Test Page and installing or updating system software) are controlled using the touch panel on the display window.

The screens and functions of the OCP display are controlled by simply touching the desired selection or icon. The current active screen is graphically displayed. There are no other buttons.



Main Menu

The Main Menu screen is shown below. For the purposes of this manual only the Service Menu is outlined on the following pages. The Service Menu is accessed by selecting the Setup icon. For detailed information regarding user-accessible menus refer to the *User's Guide*.

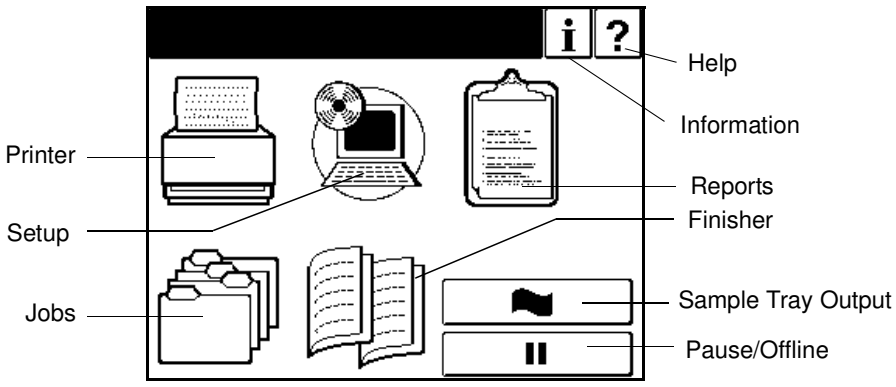


Table 3-1. Service Menu

Setup	Service[1]	Consumables	Engine	Front Engine/ Rear Engine	Developer Mix	Exhaust
						Supply
					Drum Unit	
					Fuser Web	
					Fuser Unit	
					Charger[2]	
					Corotron[2]	
					Charger Wire	
					T/S Unit Cleaner	
					T/S Wire	
					Air Filter	
					Conveyance Belt	
					Idler Gear Z28	
					Nip Guide Plate	
					Ozone Filter	
					Tray 1 Pick Assy[3]	
					Tray 2 Pick Assy[3]	
					Tray 3 Pick Assy[3]	
					MBT Pick Assy[3]	
					HCF Pick Assy[3]	
			Finisher	Booklet	Tray U/D Motor	
					Rear Stapler	
					Front Stapler	
					Paper Exit Roller	
					Mid Sponge Roller	
					Exit Solenoid	
				Container	CS1 L Roller	
					CS1 U Roller	
					CS2 L Roller	
					CS2 U Roller	
					CS1 L P1	
					CS1 U P1	
					CS2 L P1	
					CS2 U P1	
					CS1 L P2	
					CS1 U P2	
					CS2 L P2	
					CS2 U P2	
		Password	System	Change Password / Disable		
			Service	Change Password / Disable		
		Factory Default				

1. A password is required for this menu.
2. Only Rear Engine.
3. Only Front Engine.

Table 3-1. Service Menu

Setup	Service	Configuration	Engine	Front / Rear	Tray Calibration	V Position (Common to all trays)	
						1 / 2 / 3 / HCF [1]	H-S, H-D
						1 / 2 / 3 / HCF [2]	H-S [3], H-S1 [4], H-S2 [4], H-S3 [4], H-D [4]
						MBT	H-S [3], H-S1 [4], H-S2 [4]
					Print Density	Light/Semi-light/Middle/Semi-dark/ Dark	
					Heat Roller Tmp	Low/Middle/High	
					Toner Supply		
					Toner Density	Reference, Over Toner, Lack Toner, default	
					Transfer Current	TR_PWM1, TR_PWM2, default	
					Detach Voltage	1 / 2 / 3 / MBT / HCF/ All Trays	DTC_PWM1[6], DTC_PWM2[6], DTC_PWM3 [5 6], DTC_PWM4 [5 6], default
					Max Width [3]	12.0” / 304.8 mm	
						Reserved	
					Double Feed Detect [3]	Enable/Disable	

1.This menu is displayed only when the H Positioning is Enable.
2.This menu is displayed only when the H Positioning is Disable.
3.Only available for the front engine.
4.Only available for the rear engine. This menu is displayed, Engine Micro Revision 3730/ 3827/3935/4026 or higher.
5.This menu is not displayed when MBT is selected.
6.Each value has been integrated as “DTC_PWM” since Controller Revision et106.

Table 3-1. Service Menu

Setup	Service	Configuration	Finisher[1]	Jogger	CS1 Lower, CS1 Upper, CS2 Lower, CS2 Upper	Rear Jogger, Front Jogger, Stopper
			Finisher[2]	Jogger	Letter LEF, Letter SEF, Ledger SEF, Legal SEF, Folio SEF, A4 LEF, A4 SEF, B5 LEF, B4 SEF, Executive LEF	-2.0 ~ +1.5 Default
				Shift Jogger	Letter LEF, Letter SEF, Ledger SEF, Legal SEF, Folio SEF, A4 LEF, A4 SEF, B5 LEF, B4 SEF, A5 SEF, Supper B SEF, Executive LEF, Other	0.0 ~ +3.0 0.0 ~ -3.0
				Top Fence	Letter LEF, Letter SEF, Ledger SEF, Legal SEF, Folio SEF, A4 LEF, A4 SEF, B5 LEF, B4 SEF, Executive LEF	0.0 ~ +10.0 (B5 LEF 0.0 ~ +2.0) 0.0 ~ -5.0
			Container[3]	Jogger	CS1 Lower, CS1 Upper, CS2 Lower, CS2 Upper	Rear Jogger, Front Jogger, Stopper
		PM Counter Reset	Front/Rear			
		System Software	Disk Test	Upgrade System		
		Backup / Restore	Front / Rear	Backup / Restore	All [4] / HDD Data / Engine Data / Controller Click Charge Mode4 [5]	
		Jobmib Alive Time	30-300			

1.This menu is displayed when Container is supported and Standard Finisher 2 is not supported.

2.This menu is displayed when Standard Finisher 2 is supported.

3.This menu is displayed when Standard Finisher 2 and Container are supported.

4.Only available for the Backup.

5.Only available for the Restore of the front engine.

Table 3-1. Service Menu

Setup	Service	Forced 184 Mode[1]	Enable / Disable		
		Click Charge[2]	Page Click	All / Validated	
			Usage [3]	Front/Rear	Total Sides[6], Click Charge Count, Black, Color, MICR
			Usage [4]	Front/Rear	Total Sides [6], Click Charge Count, Total Count
			Usage [5]	Front/Rear	Total Sides [6], Click Charge Count, Blaxk x Black (Simplex, Duplex), Black x Color (Simplex, Duplex)
			Model Select	Mode1 / Mode2 / Mode3 / Mode5 [7]	
			Service Mode	Enable / Disable	
		Fuser Warning	Enable / Disable		

1. This menu is displayed only when the toner configuration is Color.
2. This menu is displayed when Click Charge is supported.
3. This menu is displayed when Page Click is selected All.
Or This menu is displayed when Page Click is selected validated and Click Charge Mode is selected Mode l or Mode 2.
4. This menu is displayed when Page Click is selected validated and Click Charge Mode is selected Mode 3 or Mode 4.
5. This menu is displayed when Page Click is selected validated and Click Charge Mode is selected Mode 5.
6.Only available for the front engine.
7. This menu is displayed, Engine Micro Revision 3732/3829/3937/4028 or higher.

Passwords

Passwords provide security to restrict access to system parameters and certain printer maintenance functions. Two types of passwords are available with the printer: a system password and a service password.

The system password is used by the System Administrator and provides access to the system parameters. The service password is used by the Service Technician and provides access to service and maintenance functions, as well as the system parameters.

The passwords are not set at the factory and should be set up at installation.

1. To set up or change the service password make the following selections from the OCP:

   Setup / Service

   The ten-key pad will appear.

2. If you are setting the password for the first time press Enter (■), or

   If you are changing the password, use the ten-key pad to enter the current password, then press Enter (■).

3. Select ***Passwords*** from the menu.

4. Select ***System*** or ***Service*** from the menu.

5. Enter a new password using the ten-key pad then press Enter (■).

6. Re-enter the password and press Enter (■). The display will indicate that the password has been changed.

CAUTION!
If the password is lost or forgotten it cannot be recovered. In that case, replace the HDD.

Factory Defaults

Table 3-2. Factory Default

Parameter					Default (Note1)	Factory Default (Note 2)
Paper Source	Default				Auto Select	
	Paper Size		Tray 1, 2, 3		-(Note 3)	←
			MBT		Letter LEF	←
			HCF		Letter LEF	←
	Paper Type (Common in all Trays)				Plain	←
	Paper Color (Common in all Trays)				White	←
	Paper Weight (Common in all Trays)				20 lb. bond	←
	Tray Adjust (Common in all Trays)				0	←
	Color Control (Common in H/V Directions of Tray 1/2/3/ HCF)(Note 4)	Simplex	F : Front Side		0%	←
			R : Front Side		0.12%	←
		Duplex	F : Front Side		0%	←
			F : Rear Side		0%	←
			R : Front Side		0.12%	←
			R : Rear Side		0.12%	←
	Paper Pattern (Common in all patterns)	Paper Size			Letter LEF	←
		Paper Type			Plain	←
		Paper Weight			20 lb. bond	←
		Tray Adjust			0	←
		Color Control	Simplex	F : Front Side	0%	←
				R : Front Side	0.12%	←
			Duplex	F : Front Side	0%	←
				F : Rear Side	0%	←
				R : Front Side	0.12%	←
				R : Rear Side	0.12%	←
		Detach Voltage	Front 1		144	←
			Front 2		144	←
			Back 1		144	←
			Back 2		144	←
		Paper Color			White	←
		H Positioning	Positioning		Enable	←
			Skew Detect		Enable	←

*1. This item shows the value initialized by the **Setup / Service / Factory Default***

2. This item shows Factory Default.

*3. This is not reset by **Setup / Service /Factory Default** because this item is set using the sensor plate in the tray. However, when the sensor plate is set to ▲, and **Setup / Service / Factory Default** is executed, Folio SEF is the default value.*

4. The V Directions does not initialize by Factory Default.

Table 3-2. Factory Default

Parameter				Default (Note1)	Factory Default (Note 2)
Options	Wait Timeout			0 second	←
	LPD Queuing			Disable	←
	Duplex-Always			Disable	←
	Print Density (Common in Front / Rear engine)			-	Middle
	Heat Roller Tmp (Common in Front / Rear engine)			-	Normal
	Detach Voltage (Common in Front / Rear engine)	Front 1		-	144
		Back 1		-	144
		Front 2		-	144
		Back 2		-	144
	Laser Power Adjust (Common in Front / Rear engine)			-	0
	DBL Feed Detect			-	Disable
	H Positioning	Positioning		-	Enable
		Skew Detect		-	Enable
OCP	Brightness(Note 4)			10	←
	Contrast			10	←
	Buzzer Volume(Note 5)			3	←
Service	Password	System		-	-
		Service		-	-
	Configuration (Engine)	Tray Calibration (Common to all trays)		-	The Mechanical Engine Value (Note 3)
		Print Density		-	Middle
		Heat Roller Tmp		-	Normal
		Toner Density	Reference	-	128 (2.5V)
			Over Toner	-	102 (2.0V)
			Lack Toner	-	153 (3.0V)
		Transfer Current	TR_PWM1	-	204
			TR_PWM2	-	204
		Detach Voltage (Note 6) (Common in all Trays)	DTC_PWM1	-	144
			DTC_PWM2	-	144
			DTC_PWM3	-	144
			DTC_PWM4	-	144
		Max Width		12.0"/304.8mm	←
		DBL Feed Detect		-	Disable
	Jobmib Alive Time			300	←
	Forced 184 Mode			Disable	←
	Click Charge	Page Click		ALL	←
		Mode Select		Mode1	←
		Service Mode		Disable	←
	Fuser Warning			Enable	←

*1. This item shows the value initialized by the **Setup / Service / Factory Default***
2. This item shows Factory Default.
3. This value is peculiar to each machine.
4. When OCP for CL143/CL144 is connected, it is not displayed.
5. When OCP for CL143/CL144 is connected, it is displayed.
6. Each value has been integrated as "DTC_PWM" since Controller Revision et106.

Table 3-2. Factory Default

Parameter				Default (Note1)	Factory Default (Note 2)
System	Network	IP Address	Front	-	10.0.1.1
			Rear	-	10.0.2.1
		Subnet Mask (Common in Front / Rear engine)		-	0.0.0.0
		Gateway Address (Common in Front / Rear engine)		-	0.0.0.0
		HTTP Port (Common in Front / Rear engine)		80	←
	Calendar	Time Zone		GMT	GMT
		Date		-	Set Date
		Time		-	Set Time
	Country Code			-	1
	Energy Save Mode			Enable	←
	Energy Save time			15 min.	←
	Password			-	←
	Public R/W			Enable	←
	Sample Print			Disable	←
	Auto Backup Time			1:00	←
	Output Cascade(Note 4)			Lower to Upper	←
OCP Language				(Note 3)	English
Configuration				Decurler	Auto Select

*1. This item shows the value initialized by the **Setup / Service / Factory Default***
2. This item shows Factory Default.
*3. If the OCP display is in Japanese make the following OCP selections to change it to English: **Setup / Language / English***
4. Only available for the Connecting Container Stacker.

Engine Configuration

Table 3-3. Engine Calibration

Parameter	Adjustment
Tray Calibration	1. V position is the same for all trays. Range is 250 to 394 dots (Hex 00 to 48). 2. H Position can be configured per tray. Range is 334 to 500 dots (Hex 00 to 6A). 3. Value is always even number. 4. When the engine version rear master is 3935 or more and H Positioning is Disable, and values are rear engines. H-S1, H-S2 and H-S3 are shown instead of H-S. H-S1 : Tray calibration for simplex side in 184 mode. H-S2 : Tray calibration for simplex side in Color Simplex mode. H-S3 : Tray calibration for simplex side in Color Duplex mode. **NOTE***: See Table 3.4 below.*
Print Density	Print Density is adjustable to 5 levels: Light, Semi-Light, Middle, Semi-Dark, Dark
Heat Roller	Heat Roller Temperature is adjustable to 3 levels: Low: 180C, Normal 190C, High: 200C
Toner Supply	The toner is compulsorily replenished with the developer and whenever a lack toner error occurs.
Toner Density	1. Reference - Default 128 (Hex 80). Range is 115 to to 141 (Hex 73 to 8D). 2. Over Toner - Default is 102 (Hex 66). Range is 76 to 128 (Hex 4C to 80). 3. Lack Toner - Default is 153 (Hex 99). Range is 128 to 179 (Hex 80 to B3).
Transfer Current	1. TR_PWM1 - Default 153 (Hex 99). Range is 51 to 253 (Hex 33 to FD). 2. TR_PWM2 - Default 153 (Hex 99). Range is 51 to 253 (Hex 33 to FD).
Detach Voltage (Note 1)	1. DTC_PWM1 - Default 144 (Hex 90). Range is 51 - 254 (Hex 33 to FE). 2. DTC_PWM2 - Default 144 (Hex 90). Range is 51 - 254 (Hex 33 to FE). 3. DTC_PWM3 - Default 144 (Hex 90). Range is 51 - 254 (Hex 33 to FE). 4. DTC_PWM4 - Default 144 (Hex 90). Range is 51 - 254 (Hex 33 to FE). **NOTE:** *Make each value the same.*

1. Each value has been integrated as "DTC_PWM" since Controller Revision et106.

Table 3-4. mm/Dot Relationship

mm	Dot
0.5	12
1.0	24
1.5	36
2.0	48
2.5	60
3.0	70
5.0	118

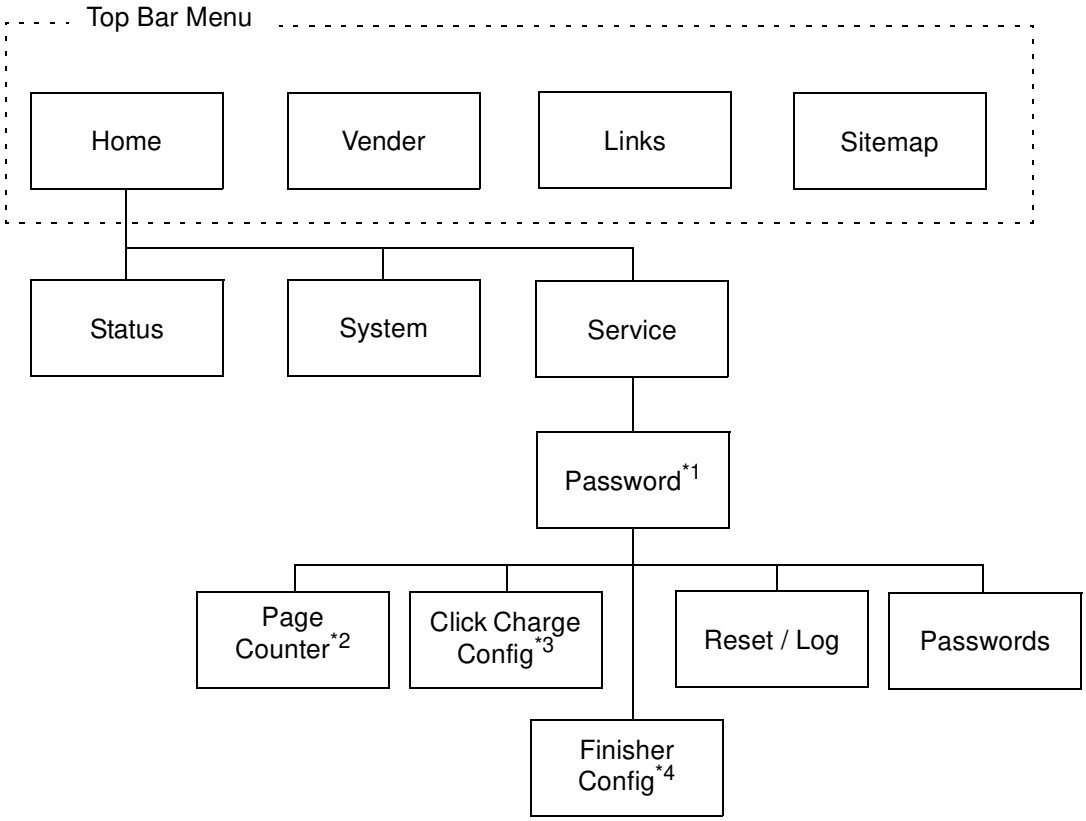
PM Counter Reset

- Initial value of the maintenance counter is 400,000.
- The value decreased by one for every printed page.
- When the counter reaches zero a warning message appears on the OCP. When the warning message appears, perform a printer maintenance, then reset the counter.

Chapter 4
Web Interface Functions

Overview

The Web Utilities give you the power to access the printer through the Internet For the purposes of this manual, only the Service items are shown. For a complete description of Status and System Web pages, see the *User's Guide*.



1. Password is not set at the factory. Password should be set by Service Technician at installation.
2. This menu is not displayed for rear engine when the Click Charge is not supported.
3. This menu is displayed only for the front engine when Click Charge is supported.
4. This menu is displayed only for the Standard Finisher 2 (SR5000) is supported.

Often, the status of an item is indicated with a colored button or graphic. Three colors are used throughout the Web Utilities to graphically display the status of various items.

- Green indicates a normal condition.
- Yellow indicates a warning condition (e.g., low paper, low toner, consumable near end of life).
- Red indicates an obstacle to printing, such as an empty condition, consumable at end of life, paper jam, or door open.

Access and Security

Not all Web Utilities are available to every type of user. Access to certain utilities is limited by a password. Passwords provide security to the System and Service areas of the system. The Web Utilities provide three levels of access: Status, System, and Service, which are described below.

- Status Access

  Access to the Status area of the system does not require a password. It allows the user to view all Status options and print Status, Summary, Demo, and font reports.

- System Access

  System access requires a password and enables the user to perform System functions. System functions include modifying the printer configuration, displaying all jobs in the system, and changing the system password. All user-accessible items are available as well.

- Service Access

  Service access requires a password and enables unrestricted access to the system. Service access allows you to display and modify the system configuration, counters, license keycode, and both system and service passwords. All user- and system-accessible items are available as well.

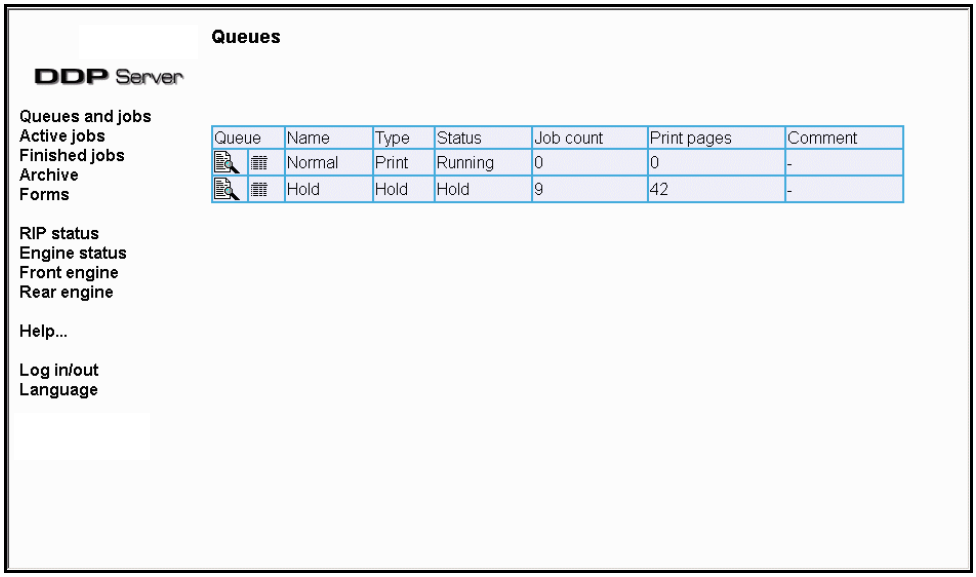
NOTES:

It is the responsibility of the servicing dealer and/or system administrator to set and secure passwords in the Web Utilities.

To access the System area, enter the User Name **system**. *To access the Service area, enter the User Name* **service**. *The default password for both areas is blank and should be changed when the printer is installed.*

Accessing the Web Utilities

To access the Web Utilities, enter the IP address of the DDP Server in the address bar of your Internet browser. The DDP Server Home Page will be displayed.



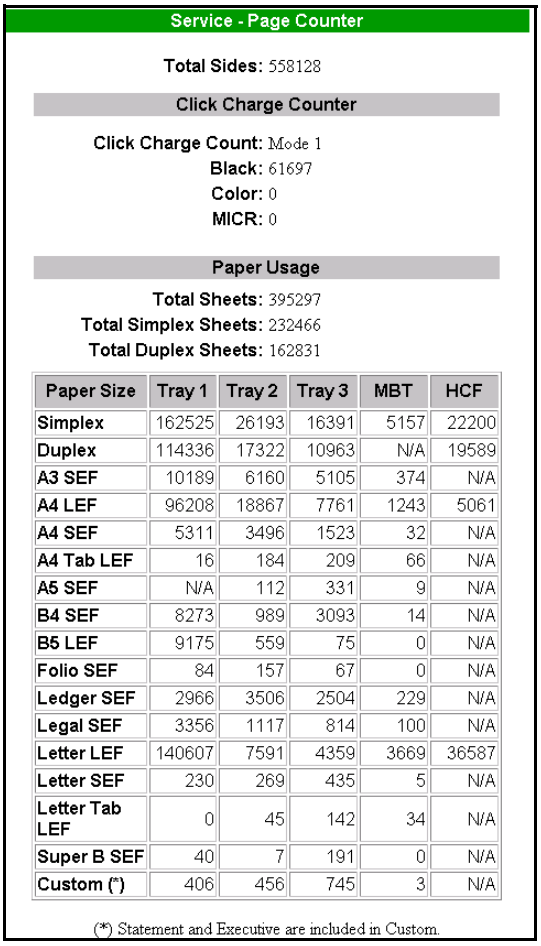
Choose Front Engine or Rear Engine. The Home Page is the first page that will be displayed.

You can make a selection from the Home Page or wait 30 seconds for the Status-General page to be automatically displayed.

The Service area of the system is discussed in the following pages.

Page Counter

You can reference to various printing conditions as shown below by accessing this page.



Service - Page Counter

Total Sides: 558128

Click Charge Counter

Click Charge Count: Mode 1
Black: 61697
Color: 0
MICR: 0

Paper Usage

Total Sheets: 395297
Total Simplex Sheets: 232466
Total Duplex Sheets: 162831

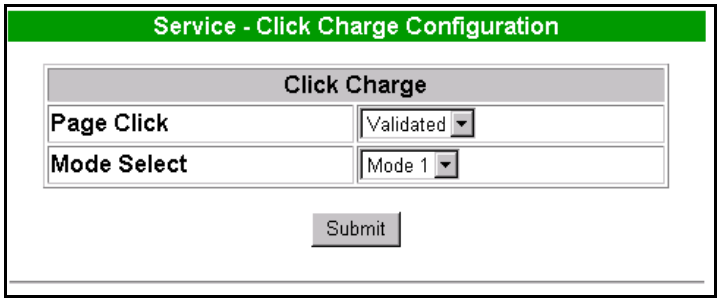
Paper Size	Tray 1	Tray 2	Tray 3	MBT	HCF
Simplex	162525	26193	16391	5157	22200
Duplex	114336	17322	10963	N/A	19589
A3 SEF	10189	6160	5105	374	N/A
A4 LEF	96208	18867	7761	1243	5061
A4 SEF	5311	3496	1523	32	N/A
A4 Tab LEF	16	184	209	66	N/A
A5 SEF	N/A	112	331	9	N/A
B4 SEF	8273	989	3093	14	N/A
B5 LEF	9175	559	75	0	N/A
Folio SEF	84	157	67	0	N/A
Ledger SEF	2966	3506	2504	229	N/A
Legal SEF	3356	1117	814	100	N/A
Letter LEF	140607	7591	4359	3669	36587
Letter SEF	230	269	435	5	N/A
Letter Tab LEF	0	45	142	34	N/A
Super B SEF	40	7	191	0	N/A
Custom (*)	406	456	745	3	N/A

(*) Statement and Executive are included in Custom.

"N/A" is displayed on the paper source columns if the forms are not supported.
The Statement and Executive forms are counted as Custom size forms.
"Total Size" and "Click Charge Counter" are displayed when the Click Charge is supported.
The selected mode is displayed on the Click Charge Count when [Service]-[Click Charge Config]-[Mode Select] is available for the front engine. Paper Usage is available only for the front engine.

Click Charge Validation

The Page Click is selectable either “ALL” or “Validated” by accessing this page.
You can select from Mode 1, 2, 3, 4and 5 with Mode Select when the Click Charge Mode 5 functions are supported.
[NOTE]
The Click Charge Mode 5 functions are supported when the engine version front master is 3732 or more, the front slave 3829 or more, the rear master 3937 or more, and the rear slave 4028 or more.

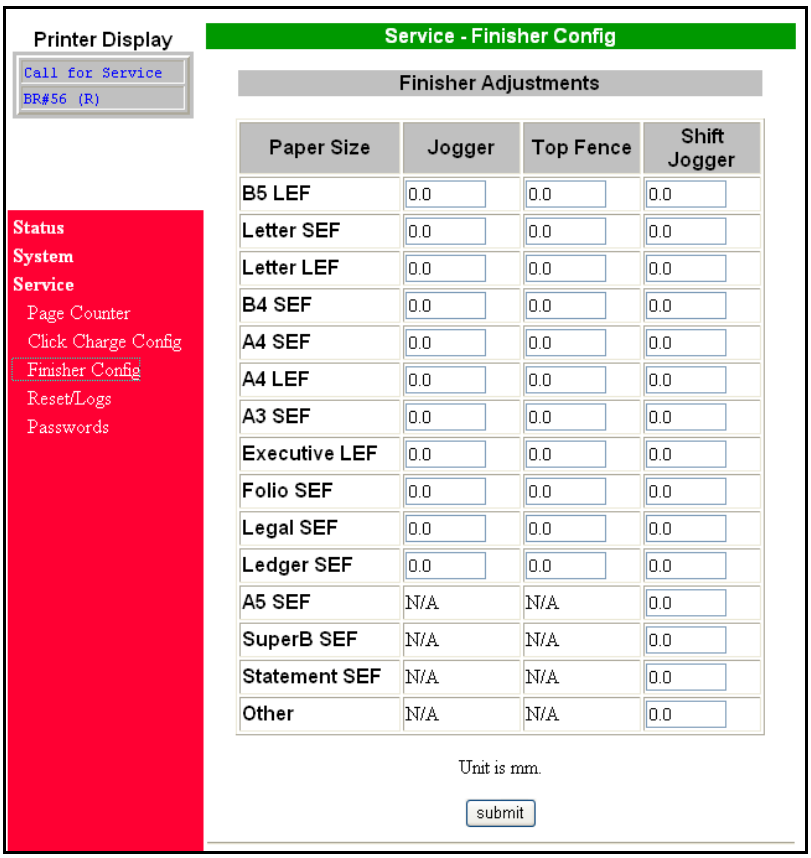


*: It is effective when the Click Charge is supported.

Finisher Config

Finisher Adjustment[*1]

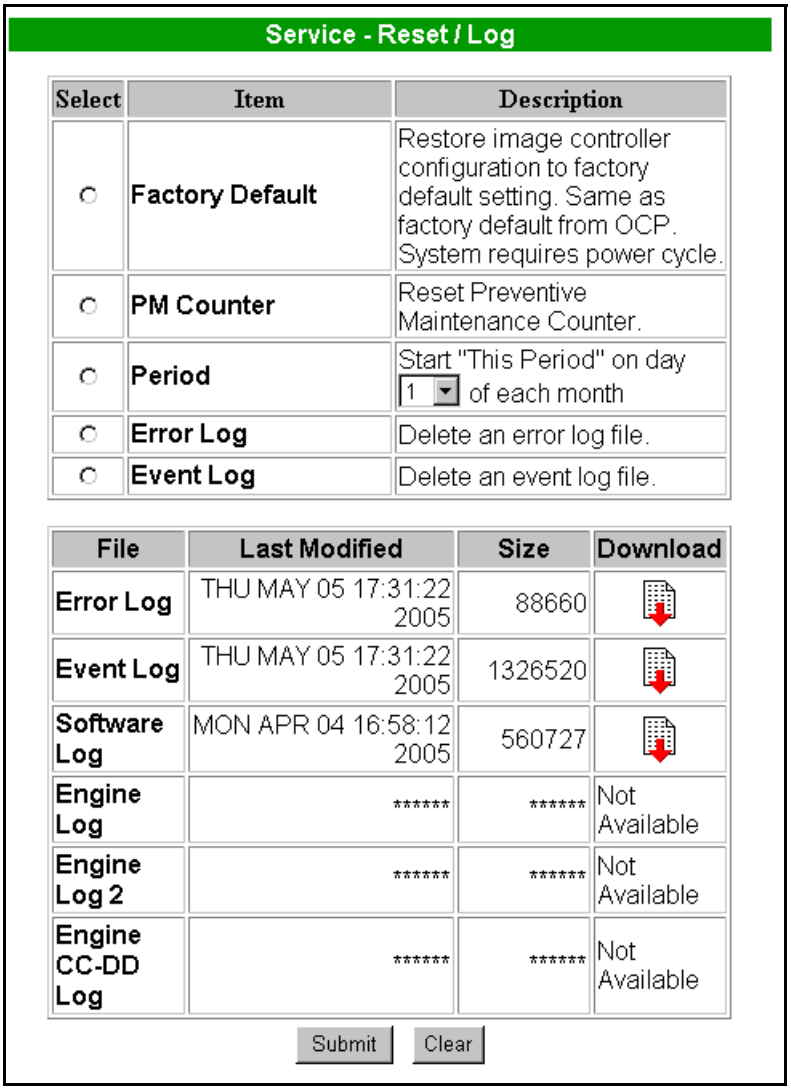
This page can be display or change the Jogger for Standard Finisher 2 (SR5000).
Jogger : -2mm ~ +1.5mm, 0.5mm intervals
Top Fence : -5mm ~ +10mm, 0.1mm intervals
(Only B5 LEF : -5mm ~ +2mm, 0.1mm intervals)
Shift Jogger : -3mm ~ +3mm, 0.1mm intervals



*1: This menu is displayed only for the Standard Finisher 2 (SR5000).

Reset Log

Use this page to reset the system and to download the various Log reports.



Factory Default

When you select Factory Default the Controller and Network values are reset to the Factory Default settings. Perform a power cycle to confirm the new settings..

CAUTION!

Factory Default will clear all values set by the User. Be sure you have User approval before performing this operation.

PM Counter*1

Make this selection after performing a Preventative Maintenance.

Period*1

Set the start day of the data collection period. The factory default is the first day of every month.

Download Log

Download the desired log by right clicking on the  symbol. The logs are saved as a text file.

- Using Internet Explorer “Save Target As...”
- Using Netscape “Save Link As...”

Error Log

This log records Engine error information. A sample is shown below.

```
[ 6/21/2001] [ 8:40:39] [t1]: WARN: smiExceptInit}   Re-initializing the SMI interrupt vector
[ 6/21/2001] [ 8:57:46] [page=-1] [count=996] [tRWorld]: ERR: searchEngErrorMsg} Operator intervention request #E002
[ 6/21/2001] [ 9: 0:54] [page=64859] [count=997] [icMessageTask]: ERR: icMessageIn} unknown alert = 502
[ 6/21/2001] [ 9: 1:20] [page=-1] [count=998] [tRWorld]: ERR: searchEngErrorMsg} Paper Jam #E119
[ 6/21/2001] [ 9: 6:22] [page=64873] [count=1003] [tRWorld]: ERR: searchEngErrorMsg} Operator intervention request#E044
[ 6/21/2001] [ 9: 7:52] [page=-1] [count=1004] [tRWorld]: ERR: searchEngErrorMsg} Paper Jam #E119
[ 6/21/2001] [ 9: 8:18] [page=64879] [count=1005] [tRWorld]: ERR: searchEngErrorMsg} Operator intervention request#E043
[ 6/21/2001] [ 9:10:13] [page=-1] [count=1006] [tRWorld]: ERR: searchEngErrorMsg} Paper Jam #E134
[ 6/21/2001] [ 9:10:16] [page=-1] [count=1007] [tRWorld]: ERR: searchEngErrorMsg} Operator intervention request #E043
[ 6/21/2001] [ 9:12:48] [page=64897] [count=1009] [tRWorld]: ERR: ecError} EC Error EC#16
```

Event Log

This log records Engine event information. A sample is shown below.

```
[ 6/21/2001] [ 9:35: 8] [icMessageTask]: INFO: icMessageIn} started job 3
[ 6/21/2001] [ 9:38: 1] [page=-1] [count=1010] [icMessageTask]: ERR: icMessageIn} unknown alert = 503
[ 6/21/2001] [ 9:38: 9] [tRWorld]: WARN: isPaperErr} Paper Out Tray 2
[ 6/21/2001] [ 9:38:11] [page=-1] [count=1011] [tRWorld]: ERR: searchEngErrorMsg} Operator intervention request #E002
[ 6/21/2001] [ 9:47:58] [page=-1] [count=1012] [tRWorld]: ERR: searchEngErrorMsg} Paper Jam #E138
[ 6/21/2001] [ 9:48:26] [page=65545] [count=1013] [tRWorld]: ERR: searchEngErrorMsg} Paper Jam #E138
[ 6/21/2001] [ 9:48:32] [page=65545] [count=1014] [tRWorld]: ERR: searchEngErrorMsg} Operator intervention request#E043
[ 6/21/2001] [ 9:52:46] [page=-1] [count=1015] [tRWorld]: ERR: searchEngErrorMsg} Paper Jam #E138
[ 6/21/2001] [ 9:52:53] [page=-1] [count=1016] [tRWorld]: ERR: searchEngErrorMsg} Operator intervention request #E043
[ 6/21/2001] [ 9:53:24] [page=65615] [count=1017] [tRWorld]: ERR: searchEngErrorMsg} Operator intervention request
```

**1 : This menu is displayed only Front Engine.*

Software Log

This log records Controller Software information. A sample is shown below.

```
[ 4/13/2004] [ 7:45: 1]
0x17fdc98        tExcTask          0        PEND   7984    240      312      7672
117298 vxTaskEntry    +60 : excTask ()
 b80e0 excTask        +44 : msgQReceive ()
 eed5c msgQReceive    +298: qJobGet ()

0x17fa370        tLogTask          101      PEND   4984    224      288      4696
117298 vxTaskEntry    +60 : logTask ()
 be540 logTask        +30 : msgQReceive ()
 eed5c msgQReceive    +298: qJobGet ()

0x17f4c10        tAioWait          51       PEND   28656   360      560      28096
117298 vxTaskEntry    +60 : aioWaitTask ()
 d8ac8 aioWaitTask    +144: select ()
 c8898 select         +308: semTake ()
 f0c08 semTake        +140: semBTake ()

0x17ed9f8        tAioIoTask1       50       PEND   28656   184      248      28408
117298 vxTaskEntry    +60 : aioIoTask ()
 d857c aioIoTask      +38 : semTake ()
 f0c08 semTake        +140: semCTake ()

0x17e67e0        tAioIoTask0       50       PEND   28656   184      248      28408
117298 vxTaskEntry    +60 : aioIoTask ()
 d857c aioIoTask      +38 : semTake ()
 f0c08 semTake        +140: semCTake ()

0x17ae068        tDcacheUpd        250      DELAY  4984    144      760      4224
117298 vxTaskEntry    +60 : dcacheUpd ()
1139cc dcacheUpd      +4c : taskDelay ()
```

Engine Log

This log records non-volatile memory in the Engine. A sample is shown below.

```
x8000 : x00 x00 x15 x00 x38 x00 x15 x00 x00 x00 x38 x00 x00 x00 x00 x00
x8010 : x00 x00 x00 x16 x00 x05 x20 x03 x00 x00 x00 x06 x00 x00 x00 x00
x8020 : x15 x00 x15 x00 x15 x00 x15 x00 x15 x00 x15 x00 x15 x00 x15 x00
x8030 : x07 x00 x02 x00 x01 x00 x00 x00 x00 x00 x12 x00 x00 x00 x00 x00
x8040 : x12 x00 x12 x00 x12 x00 x12 x00 x12 x00 x12 x00 x12 x00 x12 x00
x8050 : x00 x72 x00 x12 x00 x12 x00 x12 x00 x18 x00 x18 x00 x72 x99 x99
```

Engine Log2

This log records memory in the Engine. A sample is shown below.

x0000 : x20 x00 x00 x00 x00 x00 x00 x00 x00 x00 x00 x00 x00 x00 x00 x00
x0010 : x00 x00 x00 x00 x00 x00 x00 x00 x00 x00 x00 x00 x00 x00 x00 x00
x0020 : x00 x00 x00 x00 x00 x00 x00 x00 x00 x00 x00 x00 x00 x00 x00 x4a
x0030 : x23 x25 x52 x52 x52 x52 x00 x00 xff x81 x00 x00 x22 x00 xd3 x6e
x0040 : x20 x00 x55 x6e x44 x40 x40 x41 x41 x00 x09 x0a x09 x09 x09 x00
x0050 : x00 x60 x40 x00 x00 x00 x00 x00 x00 x00 x00 x01 x01 x01 x01 x01

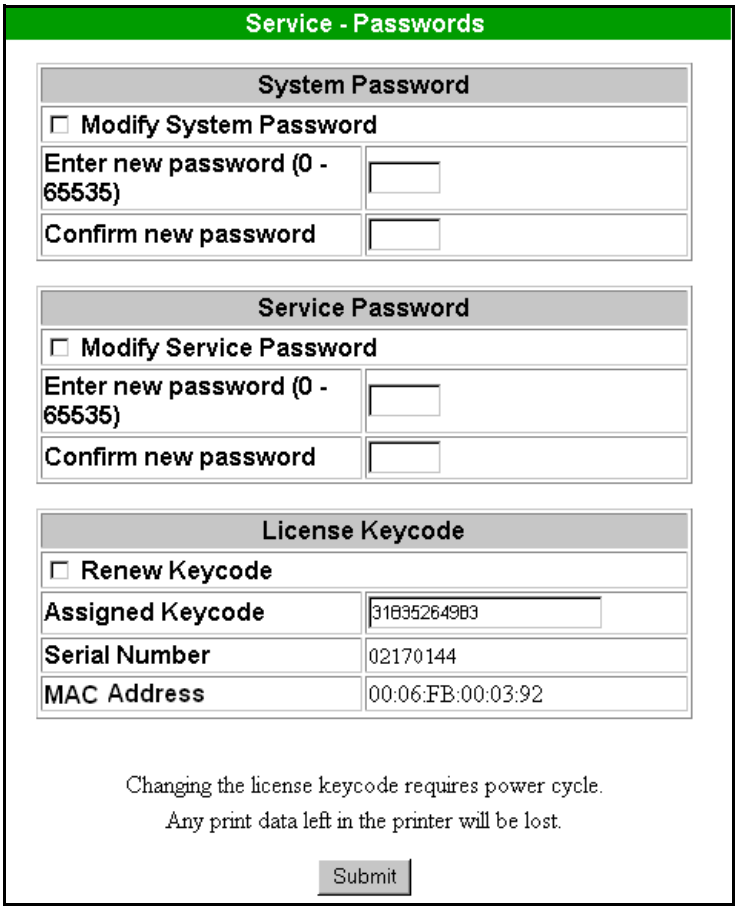
Engine CC-DD Log

This log records communication between the Engine and the Controller.

Sequence Number: 201
Time Tick: 4210
Command Request: 0x01
Commands/Engine Response: b1/20 61/00 38/ff 60/00 62/00 64/00
65/00 66/00 67/00 6d/00 70/84 73/00 74/00 98/00 99/00 9a/00 9b/00 9c/00
55/00 56/00 80/00 81/00 89/00 8a/00 8b/00 82/00 83/00 8c/00 8d/00 8e/00
84/00 85/00 8f/00 90/00 91/00 86/00 87/00 92/00 93/00 94/00 97/20 b2/20

Password

In addition to the OCP, you can use this Web page to modify the System and Service Passwords and the License Keycode. (Password menu is displayed only Front Engine)



To modify the password,

1. Click the check box next to Modify System (Service) Password.
2. Enter the new password.
3. Confirm the new password.
4. Click the Submit button.

NOTE:

Do not change the System Password without permission from the System Administrator.

If the Service Password is lost there is no way to recover it. In this case, replace the HDD.

License Keycode

CAUTION!

The License Keycode is set at the factory. It should not be changed.

Chapter 5
Service Procedures

Generally, the controller assembly does not require regular service or maintenance. Use the procedures in this chapter to inspect, remove, reseat, or replace major hardware components.

Overview

This chapter includes information on servicing the following components:

- Controller internal cable connections
- Circuit board: CE Board
- Replaceable parts on the controller board (DIMMs)
- Hard disk drive
- Operator Control Panel/LCD

See Figure 5-1 for an overview of controller assembly components. Replacement parts are available from your authorized service representative.

Before performing the procedures described in this chapter, see “Precautions” on page 1-2 and “Tools You Will Need” on page 1-4.

Controller Assembly Diagram

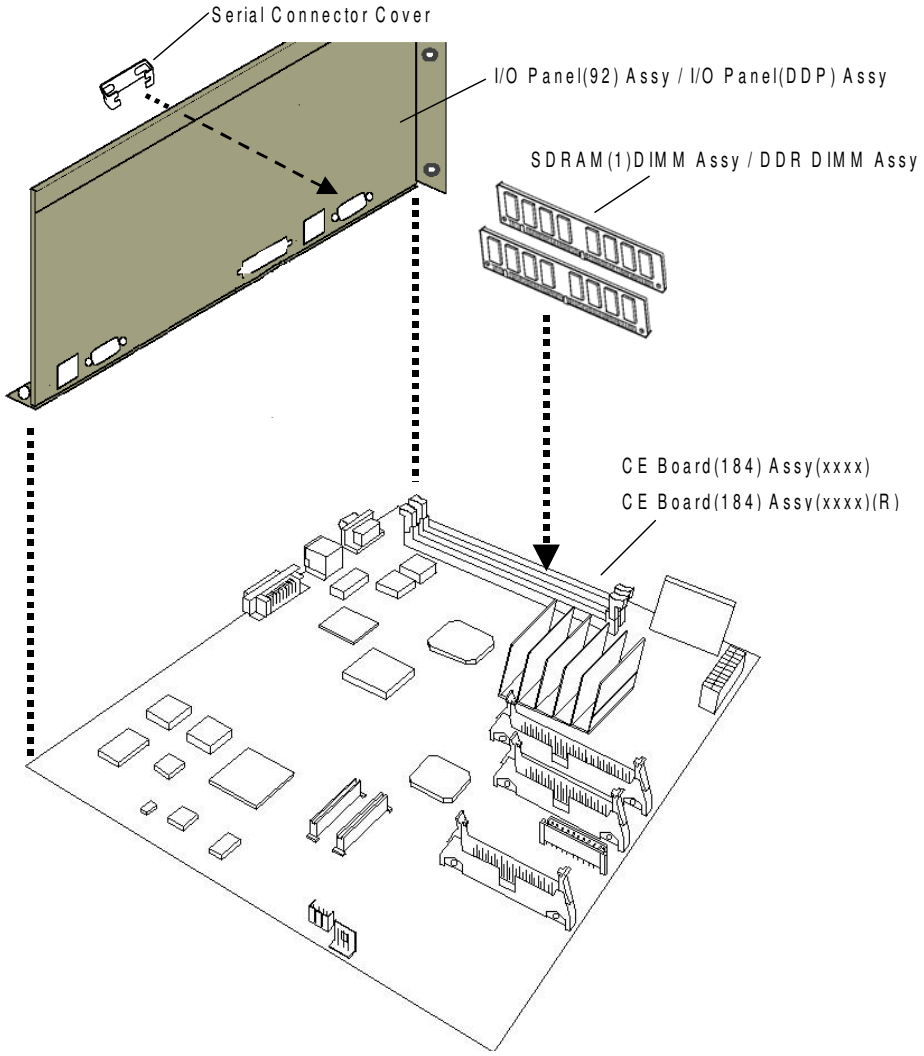


Figure 5-1. Controller Assembly and Parts

No.	Part Name	Parts Catalog			Part No.	Remarks
		List	Parts List No.	Block		
①	CE Board (184) Assy (Front)	1	202	K1	G1521186	For Front Engine
②	SDRAM (1) DIMM Assy	1	203	K1	G1501677	For Front Engine
③	CE Board (184) Assy (Rear)	2	202	K2	G1521187	For Rear Engine
④	SDRAM (1) DIMM Assy	2	203	K2	G1501677	For Rear Engine
⑤	CE Board (184) Assy (Front)(R)	1	221	K1	G1528186	For Front Engine(CL143)
⑥	DDR DIMM Assy	1	204	K1	G1508677	For Front Engine(CL143)
⑦	CE Board (184) Assy (Rear)(R)	2	221	K1	G1528187	For Rear Engine(CL144)
⑧	DDR DIMM Assy	2	204	K2	G1508677	For Rear Engine(CL144)

Accessing the Controller Assembly

When the entire controller assembly is installed inside the printer, the ports for external devices are accessible from the back panel of the printer.

Always use the following procedures when accessing the controller assembly. Make sure you attach an ESD grounding wrist strap and follow standard ESD (electrostatic discharge) precautions before following this procedure.

Shutting Down the Printer

1. Make sure that the Operator Control Panel (OCP) is idle.

   When "Processing" appears on the OCP, the controller is currently processing. Ready/(blank), Ready/Heater Off Mode (Sleep Mode), or Pause/Off-line/Heater Off Mode (Sleep Mode) appears on the OCP when the controller has finished processing.

2. Power off the printer using the power switch on the side of the printer.

3. Unplug the power cable from the wall outlet.

WARNING!

To avoid serious injury or death, disconnect the power cord from the power outlet. Do not attempt to perform any servicing operation when the power cord is connected to the power outlet. The AC line voltage is present inside the controller enclosure regardless of the main power switch position.

Accessing the Controller Assembly

1. Make sure you have shut down the printer and unplugged the power cable from the wall.

2. Take off the rear cover of the printer by removing the six screws that secure the rear cover to the printer. Unhook the bottom of the rear cover, then lift up and pull forward to release it.

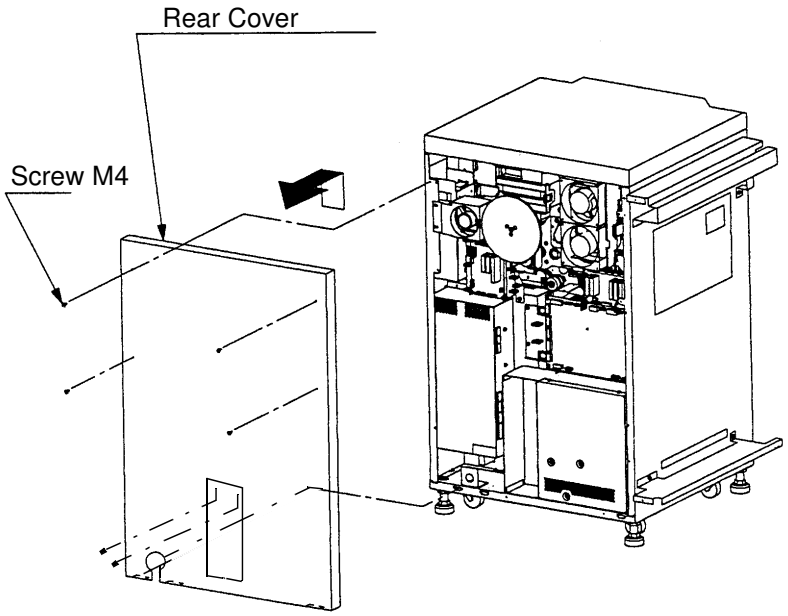


Figure 5-2. Accessing the Controller Assembly

3. Remove the twelve screws that secure the box CE box cover.

CAUTION!
The HDD is attached to the CE cover and has a cable connection. Take precautions to not damage the HDD cable when removing the CE cover from the printer.

4. The controller board is now accessible. A diagram of the controller assembly is shown in Figure 5-1.

Checking Internal Connections

The most common causes of hardware problems are faulty or loose connections. Once you conclude that all the external connections are good, check the internal connections.

1. Before you touch any parts inside the printer, attach an ESD grounding wrist strap.
2. Inspect internal ribbon cables to see if they are intact.

   Faulty ribbon cables are easily overlooked. Check the contact point between the cable and the connector to ensure that they have not separated. If a ribbon cable is suspect, substitute it with a tested cable.
3. Make sure that all controller cables and DIMMs are properly aligned and well seated on their controller connectors. For connector and DIMM locations on the controller board, see page 5-8.

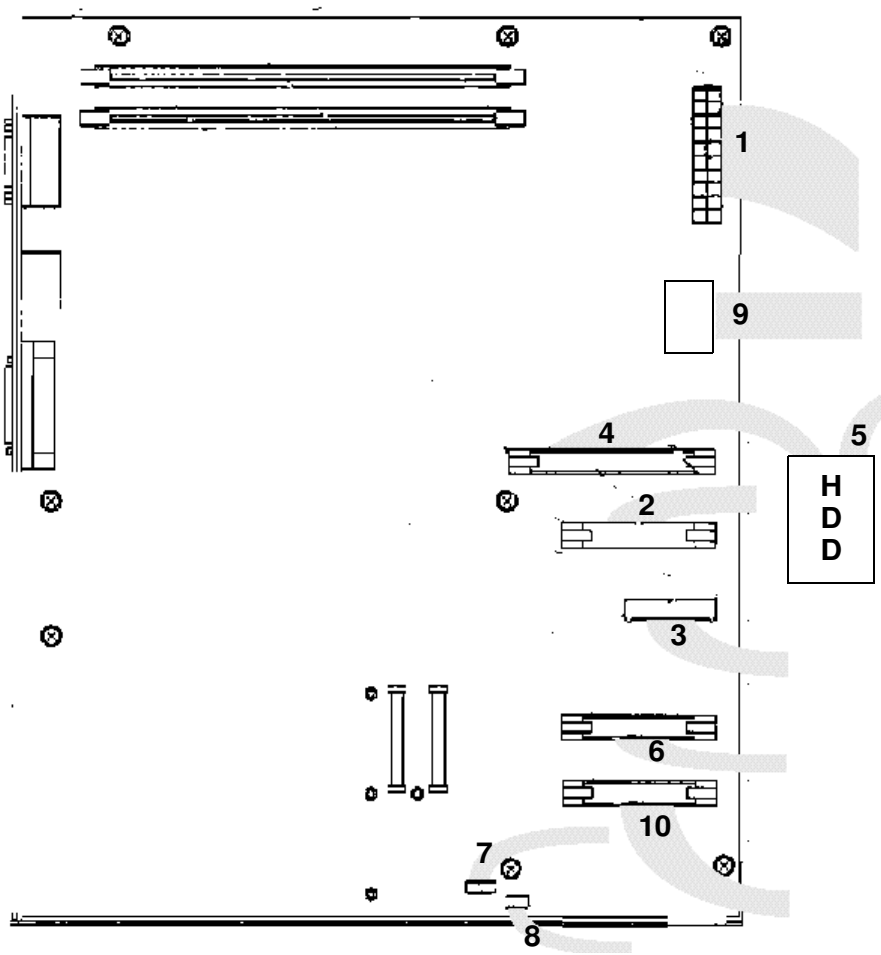


Figure 5-3. Controller Internal Connections (CL106/CL107)

	Cable	From	To
1	Controller Power Cable	Power supply	Controller Board
2	Engine Communication Cable	Engine controller	Controller Board
3	Video Cable	Video board	Controller Board
4	HDD Cable	Controller board	HDD
5	HDD Power Cable	Power supply	HDD
6	OCP Serial Cable*	Controller Board	OCP
7	Energy Save Cable	Power Supply	Controller Board
8	Fan Cable	Controller Board	Fan
9	Power Fail Cable	Controller Board	AC011 Assembly
10	Serial COM Cable	Controller Board (Front)	Controller Board (Rear)
*Front Engine Only.			

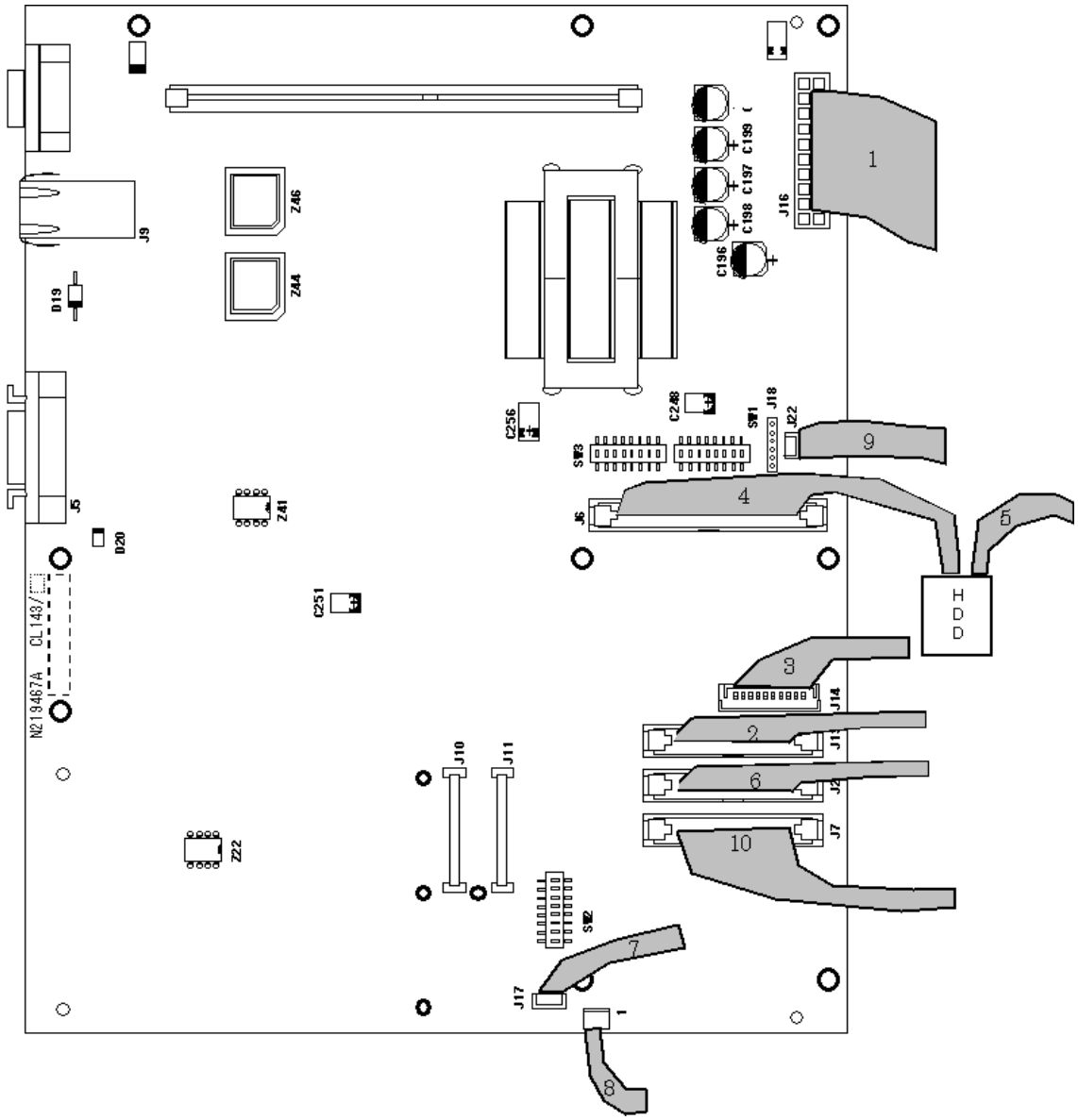


Figure 5-3-1. Controller Internal Connections (CL143/CL144)

	Cable	From	To
1	Controller Power Cable	Power supply	Controller Board
2	Engine Communication Cable	Engine controller	Controller Board
3	Video Cable	Video board	Controller Board
4	HDD Cable	Controller board	HDD
5	HDD Power Cable	Power supply	HDD
6	OCP Serial Cable*	Controller Board	OCP
7	Energy Save Cable	Power Supply	Controller Board
8	Fan Cable	Controller Board	Fan
9	Power Fail Cable	Controller Board	AC011 Assembly
10	Serial COM Cable	Controller Board (Front)	Controller Board (Rear)
*Front Engine Only.			

Restoring Controller Functionality After Service

1. Reinstall any internal boards, cables, connectors, and other parts of the controller assembly that you loosened during inspection or service.
2. If you removed the control panel cover, replace it.
3. Replace the power cable.
4. Reinstall any cables you removed from the back panel of the printer.
5. Verify controller operation as outlined below.

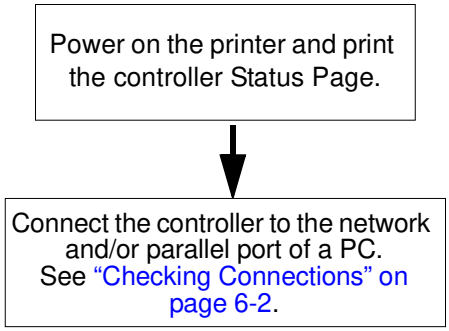


Figure 5-4. Controller Connection Verification Steps

Removing and Replacing Circuit Boards

This section describes the procedure for removing and replacing the following boards:

- Controller board
- DIMM
- Operator Control Panel

Controller Board

This section includes instructions for replacing the controller board. The controller board is installed in the Controller Electronics box (CE box) on permanent standoffs. The layout of the controller board is shown in Figure 5-5 on page 5-8.

Before you can remove the controller board you must remove:

- All cables attached to the controller board
- Memory boards

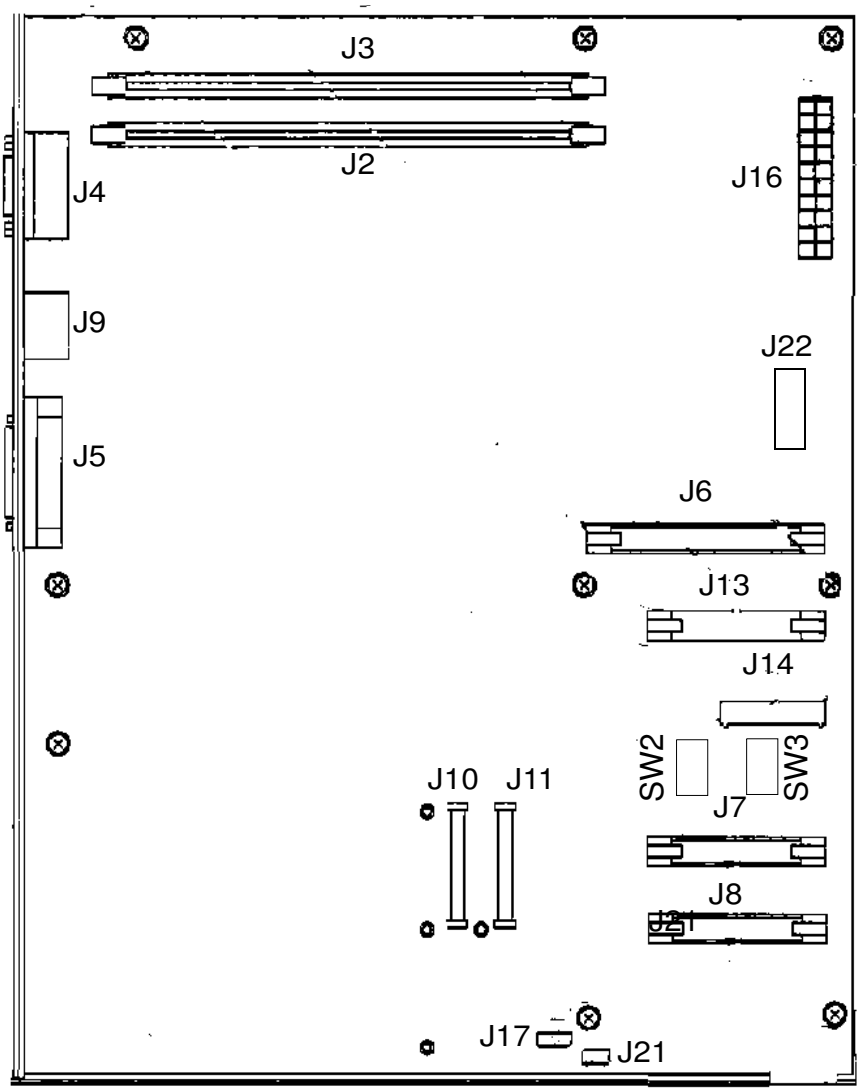


Figure 5-5. Controller Board Layout

Item	Connector(s)
Serial Port, Com1 (maintenance use only)	J4
Ethernet Port	J9
HDD	J6
Power	J16
Memory (DIMM)	J2, J3
IEEE 1284 Parallel Cable	J5
Serial Port COM3 (OCP) (Front Engine Only)	J7(CL106)
Engine Controller	J13
Video Board	J14
Fan	J21
D/C Connector	J17
Power Fail Connector	J22
Serial Communication Port	J8

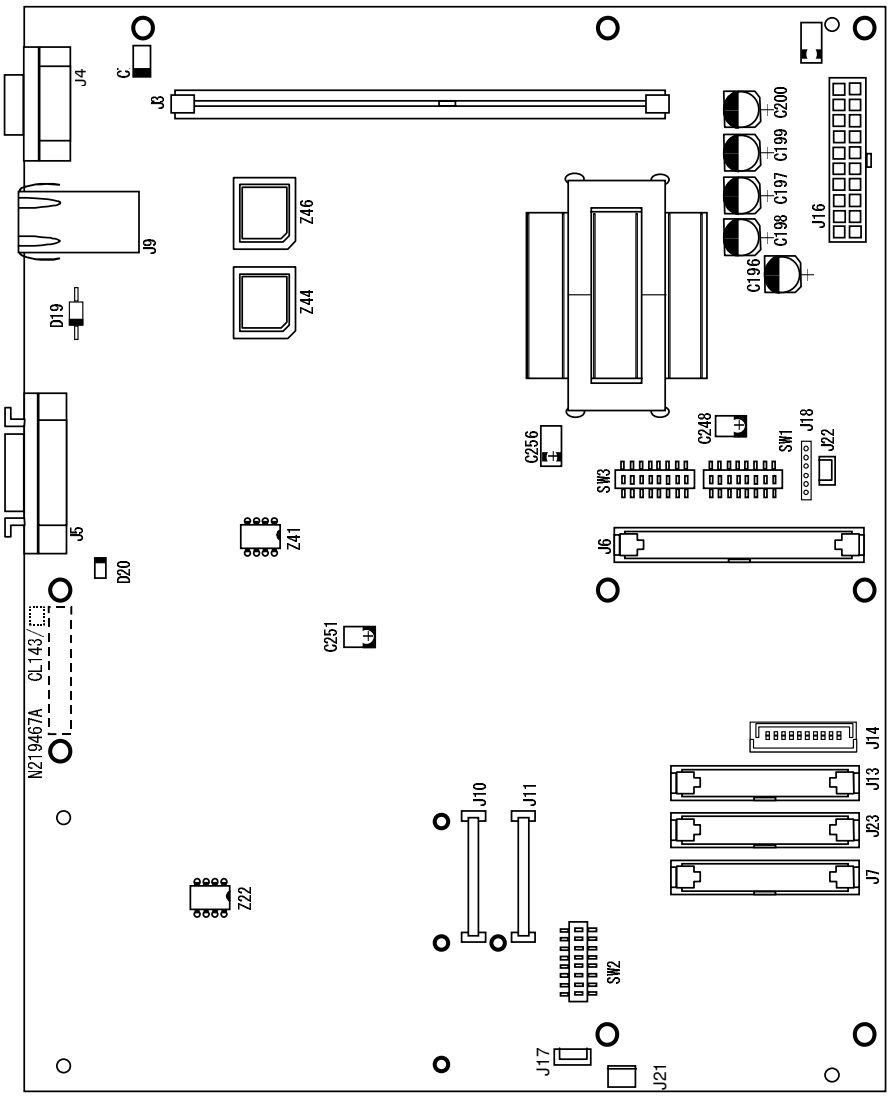


Figure 5-5-1. Controller Board Layout (CL143/CL144)

Item	Connector(s)
Serial Port, Com1 (maintenance use only)	J4
Ethernet Port	J9
HDD	J6
Power	J16
Memory (DIMM)	J3
IEEE 1284 Parallel Cable	J5
Serial Port COM3 (OCP) (Front Engine Only)	J7
Engine Controller	J13
Video Board	J14
Fan	J21
D/C Connector	J17
Power Fail Connector	J22
Serial Communication Port	J23

Removing the Controller Board

1. Print the Status page from the Reports menu.

   Setup settings are reset to the default configuration when you reinstall system software. The Status page gives you current Setup information that you can refer to after you replace the controller board.

2. Note the PCL Font List from the Status page.

   The Font List details what fonts are installed on the controller HDD. Along with the fonts that are provided on the distribution CD, the customer may have installed additional fonts that will be deleted when you replace the controller board.

3. Shut down and open the printer as described in "Accessing the Controller Assembly" on page 5-3.

4. Remove all external cables connected to the I/O panel.

5. Remove black dust cover from the I/O panel.

6. Remove the power supply cable from controller board connector J16.

7. Remove the HDD cable from controller board connector J6. Using a ribbon cable connector extractor is recommended.

8. Remove the fan cable from controller board connector J21.

9. Remove the engine communication, video, energy save, and power fail cables from the controller board at connectors J13, J14, J17, and J22.

10. Remove the serial cable from J7 (Front controller only).

11. Remove the screws that hold the controller board and the screws that hold the I/O panel and the Serial Connector Cover. Place the controller board on a flat surface.

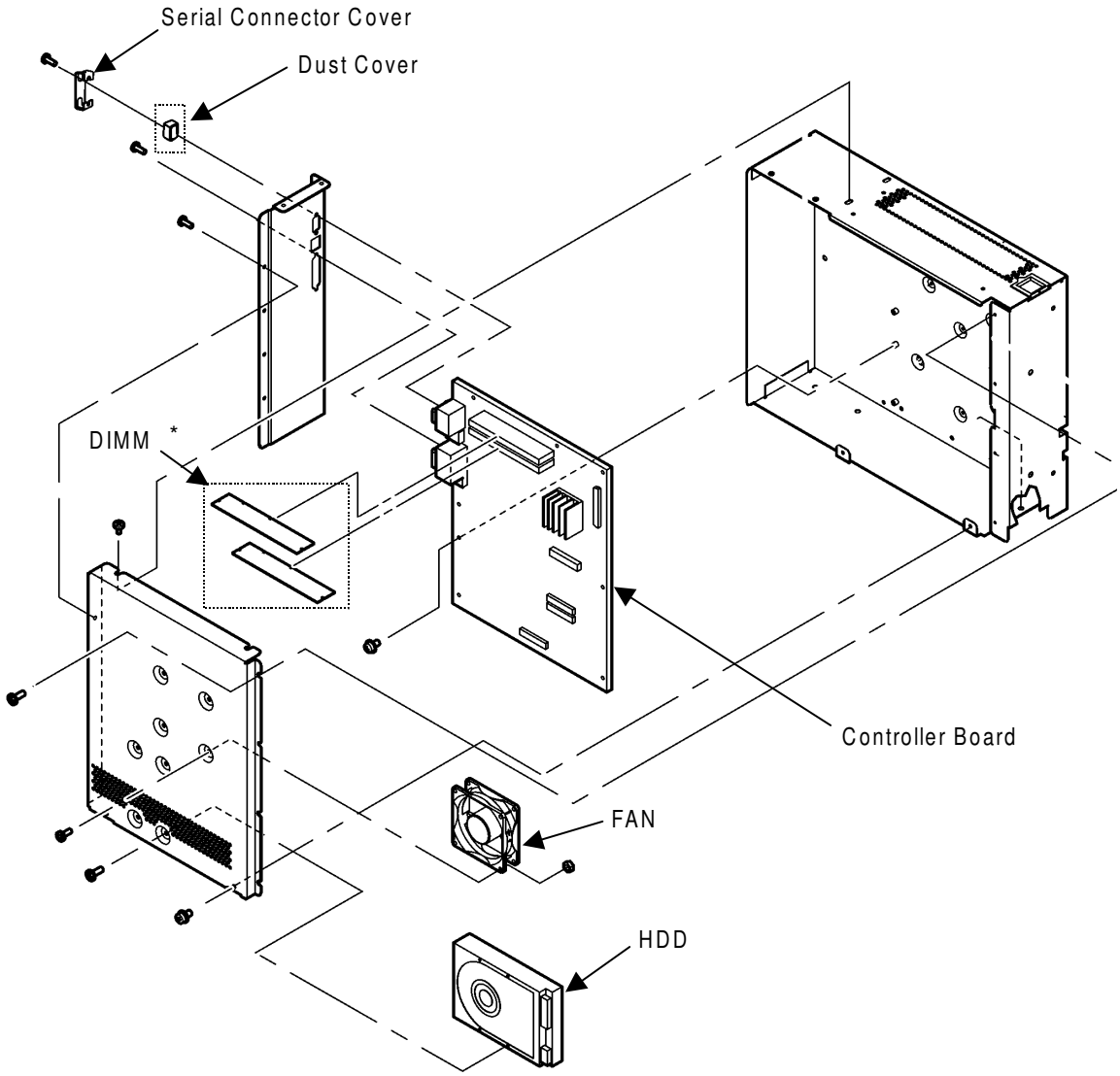
    NOTE:
    Keep it because the Serial Connector Cover and the Dust Cover attached to controller board connector J4 are installed again when the controller board is installed.

12. Remove the screws that secure the controller board to the I/O panel.

13. Remove the I/O panel and set aside.

14. Remove the DIMMs from controller board connector J2 and J3.
    (J3 only when using controller board (CL143/CL144).)

15. Place the controller board into an antistatic bag.



*It is on piece in the controller board for CL143/CL144.

Figure 5-6. Controller Assembly

Replacing the Controller Board

1. Reseat the DIMMs in controller board connector J2 and J3 as described in "Replacing or Upgrading a DIMM" on page 5-14.
   (J3 only when using controller board (CL143/CL144).)
2. Reassemble the controller board and I/O panel in reverse order of disassembling them.

   Make sure that the controller board ports are correctly aligned in the cutouts in the I/O panel before you replace the mounting screws.
3. Connect the engine communication cable, video cable, energy save cable, and power fail cable to the controller board at connectors J13, J14, J17, and J22, respectively.
4. Attach the HDD cable to controller board connector J6.
5. Connect the power supply cable to controller board connector J16.
6. Reassemble the printer and verify functionality as described in "Restoring Controller Functionality After Service" on page 5-7 or other documentation. However, a BR# xx error should be displayed on the OCP before the item 7 is executed.
7. Perform Backup / Restore according to Appendix B.

   CAUTION!
   If Backup / Restoration of Appendix B are not performed, an automatic backup function stops moreover, operating.
8. Turn the power supply off and on and confirm that the printer is booted up without any BR# xx error.

DIMM

The DIMMs (dual in-line memory module) are held in place by levers at each end of its socket on the controller board. The standard configuration is 256MB of memory, in socket J2 and J3. SW2-6 must be in the OFF position to enable 256 MB of memory.

It is one piece mounting in the controller board for CL143/CL144 on the J2 connector.

Figure 5-7 shows the DIMM location on the controller board.

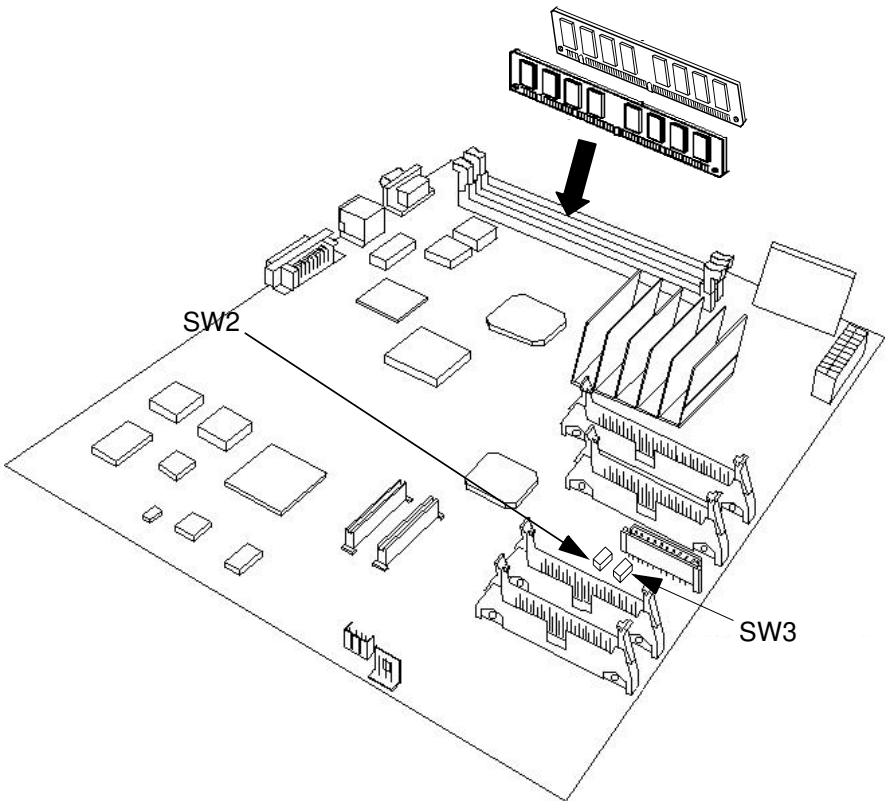


Figure 5-7. DIMM Location on the Controller Board

NOTE:
Approved DIMMs are available from your authorized service representative.

Replacing or Upgrading a DIMM

1. Shut down and open the printer as described in "Accessing the Controller Assembly" on page 5-3.
2. To release a DIMM, push outward on the lever on each side of the DIMM as shown below.

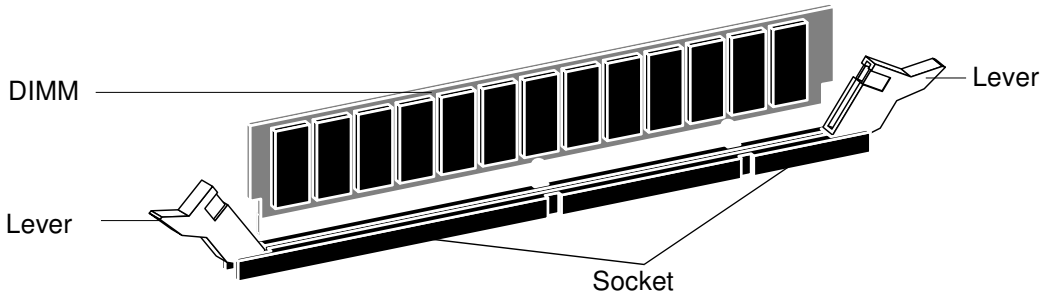


Figure 5-8. Releasing a DIMM

3. Slide the DIMM out of the socket.

   To install a DIMM, slide it into the socket until the levers snap into place.

   Make sure that the levers close securely around the ends of the DIMM and that the DIMM is fully seated in its socket. Avoid flexing the board while you firmly seat the DIMM in its socket.

   The DIMM fits the socket only one way. The two notches on the bottom of the DIMM should line up with the notches in the socket.

4. Reassemble the printer and verify functionality as described in "Restoring Controller Functionality After Service" on page 5-7 or other documentation.

Hard Disk Drive

The factory-installed hard disk drive (HDD) is formatted and loaded with all controller software, including operating software, system software, and printer fonts. Because the HDD is used to store spooled print jobs, available disk space is displayed on the Info screen.

The HDD is secured to the CE box cover as shown in the figure below.

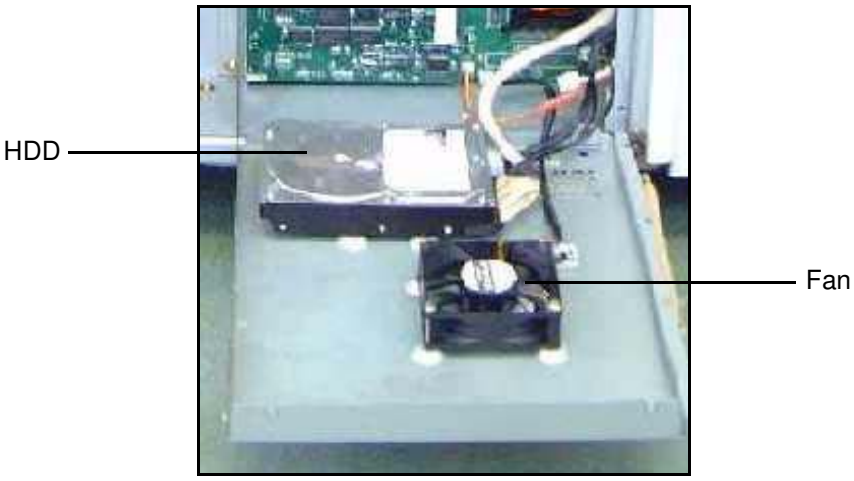


Figure 5-9. Hard Disk Drive and Fan

Proper Handling

Handle the HDD with care:

- Use proper ESD practices when grounding yourself and the controller.
- Keep magnets and magnetic-sensitive objects away from the HDD.
- Loosening the screws on the top of the HDD voids the warranty.
- Never drop, jar, or bump the HDD.
- Handle the HDD by its sides and avoid touching the printed circuit board assembly.
- Allow the HDD to reach room temperature before installation.

Before you decide that the HDD needs to be replaced, make sure that all cables are connected properly.

Removing the HDD

1. Shut down and open the front engine as described in "Accessing the Controller Assembly" on page 5-3.
2. Remove the HDD cable from controller board connector J6.
3. Unplug the HDD cable from the HDD.

4. Unplug the HDD power cable from the HDD.

5. Remove the four screws that secure the HDD to the Controller Electronics box (CE box) cover.

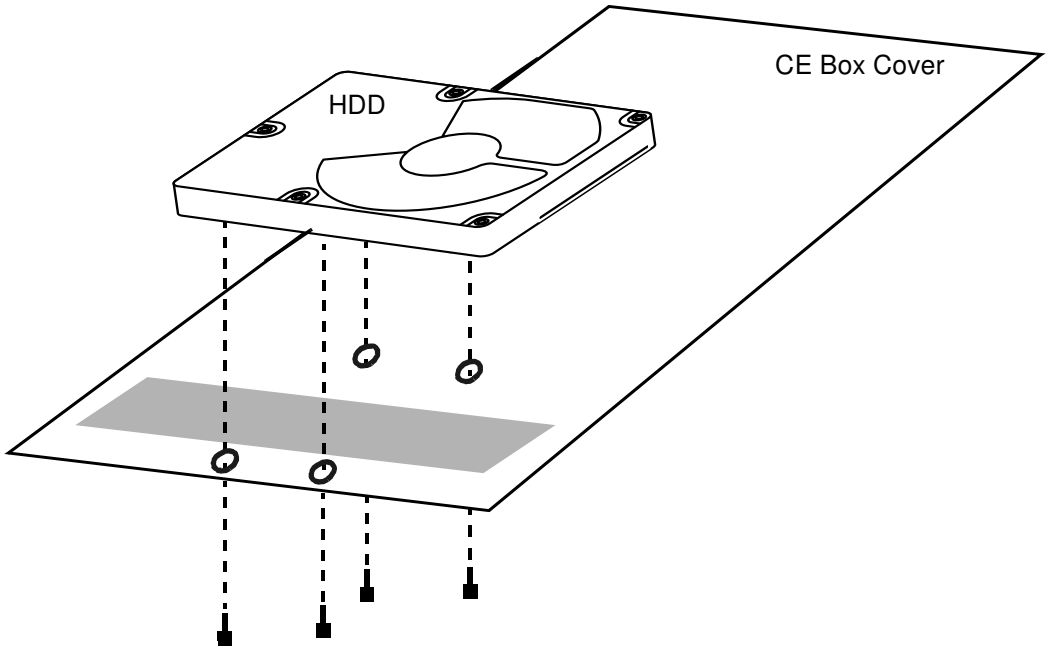


Figure 5-10. Removing the HDD

6. Lift the HDD from the CE box cover and place the HDD in an antistatic bag.

   Do not touch the drive with magnetic objects, such as magnetic screwdrivers. Do not place items near the hard disk drive that are sensitive to magnets, such as credit cards and employee ID cards. See "Proper Handling" on page 5-15.

Replacing the Hard Disk Drive

CAUTION!

• Exchange each HDD installed into the front and rear engine by all means with two HDDs packed HDD maintenance part. Two HDDs are same, therefore each HDD can be installed both front engine and rear engine.

• When replacing HDD, confirm the software revision of a couple of HDD installed into the front and rear engine. Both one should have the same software revision. Otherwise, the printer can not boot correctly.
The software revision described on the HDD label as "RPS REV".
Ex.)

Correct combination	*Incorrect combination*
(Front)et105 / (Rear)et105 *(Front)et103 / (Rear)et103*	*(Front)et104 / (Rear)et105* *(Front)et103N / (Rear)et103*

1. Secure the HDD to the CE box cover using the screws you removed earlier (see Figure 5-10).
2. Reinstall the HDD cable to controller board connector J6.
3. Plug the other end of the HDD cable into the HDD.
4. Reinstall the HDD power cable into the HDD.
5. Remove and replace the HDD of rear engine in same order of removing and replacing the HDD of front engine.
6. Reassemble the printer and verify functionality as described in "Restoring Controller Functionality After Service" on page 5-7. However, a BR# xx error should be displayed on the OCP before the item 6 is executed.
7. Perform Backup / Restore of front and rear engine's HDD according to Appendix B.

CAUTION!

If Backup / Restoration of Appendix B are not performed, an automatic backup function stops moreover, operating.

8. Turn the power supply off and on and confirm that the printer is booted up without any BR# xx error.
9. If passwords were installed in the printer, they must be re-entered after replacing the hard disk drive.

Fan

This section contains instructions for replacing the fan. The fan is secured to the CE Box cover as shown on page 5-15.

Removing the Fan

1. Shut down and open the printer as described in "Accessing the Controller Assembly" on page 5-3.
2. Remove the fan cable from controller board connector J21.
3. Remove the four screws that secure the fan to the CE box cover.

Replacing the Fan

1. Reassemble the fan in reverse order of disassembling it.

Operator Control Panel

The OCP consists of two removable parts: the OCP board and the LCD. The OCP assembly includes the above parts plus screws, bezel, and the OCP box.

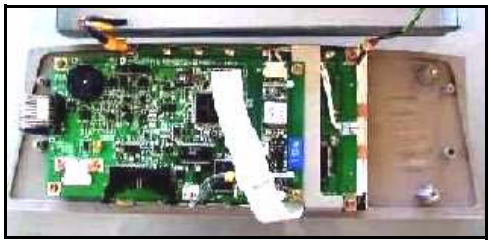
Check the controller revision by making the following selection from the OCP:

Information / Printer / Controller Revision

Bezel

OCP Box

LCD



OCP Board

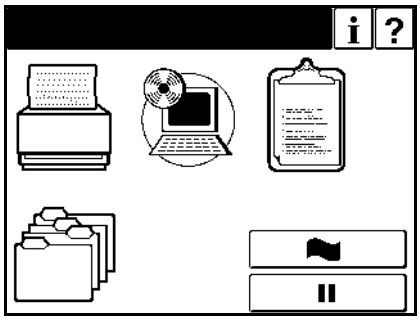
Figure 5-11. OCP Assembly

Removing the OCP Assembly

1. Shut down the printer as described in "Shutting Down the Printer" on page 5-3.
2. Open the front top door of the printer.
3. Remove the top cover by unscrewing two screws from the rear and two screws from the front.
4. Unscrew the right-hand screw and loosen the left-hand screw that secure the OCP.
5. Remove the OCP.
6. Unplug the two cables connected to the OCP.
7. Remove the OCP box from the rest of the assembly by removing two screws.

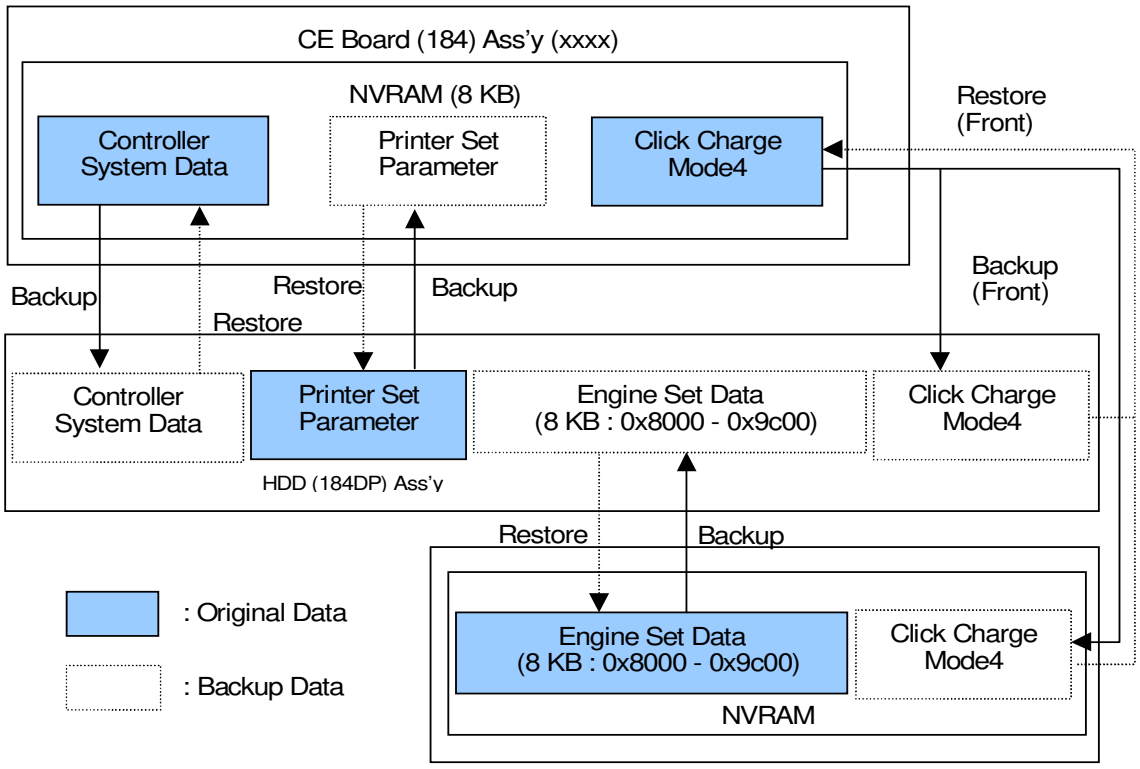
Replacing the OCP Assembly

1. Replace the OCP assembly in the reverse order of "Removing the OCP Assembly" above.
2. Verify that the "Ready" message is shown on the OCP after the printer is powered up. (It takes approximately 2 minutes for the printer to warm up and show the "Ready" message.)



Backup and Restore

The Backup/Restore feature is used to save vital data during printer service. Internal printer configuration data is saved to different locations depending on its origin.



The printer data are backed up at the following opportunities:

1. When the printer initializes.
2. When the printer clock turns to Backup time which is set from following menu. ***Setup / System / Auto Backup Time***
3. When the OCP Backup/Restore manual backup function is used.

CAUTION!

The automatic backup function is only executed if the original time and backup time are the same. If the original time and backup time are different or the Backup/Restore menu displays "unavailable", then the OCP Backup/Restore Manual Backup Function "All" must be used.

Restoring previously saved data to a HDD containing a different version of the controller software may render the printer unusable

When the HDD (184ADP) Assembly, CPxxx Assembly and / or CE Board (184ADP) Assembly (xxxx) are replaced, perform Restore and / or Backup functions according to Appendix B "Work procedure of Backup/Restore".

The table below shows the source and destination of data for the Backup/Restore function as well as the menu hierarchy.

Service	Option	Option	Source/Destination
Backup/Restore	Backup	All	(Backup all data)
		HDD Data	HDD to NVRAM
		Engine Data	Engine Controller to HDD
		Controller	Controller Board NVRAM to HDD
	Restore	HDD Data	NVRAM to HDD
		Engine Data	HDD to Engine Controller
		Controller	HDD to Controller Board NVRAM

The tables on the following pages show the data that can be saved during a backup. Some data may not be available depending on the features installed on your system. For example, if the Container Stacker is not installed on your system, any data relating to the Container Stacker will not be available.

If you see the word *unavailable* next to an item during a backup/restore, it means that the backup procedure has never been completed and, therefore, there is no backup data to restore. When a backup has been completed, a date is next to the item, indicating when the backup was performed.

Backup: HDD to NVRAM
Restore: NVRAM to HDD
User Access: WEB and/or OCP

Status	Errors	Total Error Count		
System	General	Customer	Name Mailing Address Line 1 Mailing Address Line 2	
		Printer	Name Location	
		Service Contact	Name Phone Number 1 Phone Number 2 Email	
	Printer	Paper Source	Tray 1	Paper Size Paper Type Paper Color Paper Weight Custom Size Tray Adjust
			Tray 2	Paper Size Paper Type Paper Color Paper Weight Custom Size Tray Adjust
			Tray 3	Paper Size Paper Type Paper Color Paper Weight Custom Size Tray Adjust
			MBT	Paper Size Paper Type Paper Color Paper Weight Custom Size Tray Adjust
			HCF	Paper Size Paper Type Paper Color Paper Weight Custom Size Tray Adjust
		PostScript	Print Errors Best Fit Job Timeout Memory Size	
		Options	Wait Timeout	

System	Finisher	Stapler Booklet		
		Inserter	1	Paper Size Paper Type Paper Weight Custom Size
			2	Paper Size Paper Type Paper Weight Custom Size
	Configuration	Password		
		Calendar	Time Zone	
			Daylight saving time	Use Daylight Saving Time Start with End with
			Time Server	Use Time Server Primary IP Address Secondary IP Address Synchronization Time
		Misc.	Country Code	
			Output Cascade	
		Tray Grouping		
		Network	TCP/IP	
	Accounting	PM Due In		
		Toner Coverage	Last Document	
		Paper Usage	Current Period	Total Sheets Total Sides A3 SEF A4 LEF A4 SEF A4 Tab LEF A5 SEF B4 SEF B5 LEF Folio SEF Ledger SEF Legal SEF Letter LEF Letter SEF Letter Tab LEF Super B SEF Custom
	Dealer	Name Mailing Address Line 1 Mailing Address Line 2 Email Web Site 1 Web Site 2 Web Site 3 Message Line 1 Message Line 2 Message Line 3 Message Line 4 Message Line 5		
Service	Passwords	System Password Service Password		

Backup: ENGINE -> HDD
Restore: HDD -> ENGINE
User Access: WEB and/or OCP

Status	Revision	Engine Firmware		
	Usage	Click Charge Count		
System	Finisher	Stapler		
		Trimmer		
		Folder		
	Accounting	PM Due In		
		Paper Usage	Lifetime	Total Sheets Total Sides
			Total Pick Sheets	A3 SEF A4 LEF A4 SEF A4 Tab LEF A5 SEF B4 SEF B5 LEF Folio SEF Ledger SEF Legal SEF Letter LEF Letter SEF Letter Tab LEF Super B SEF Custom

Service	Consumables	Printer	Limit	Developer Mix. Drum Unit Fuser Web Fuser Unit Charger Wire/Grid T/S Corona Unit Cleaner Transfer Separating Corona Wire Ozone Filter Air Filter Conveyance Belt Idler Gear Z28 Nip Guide Plate Tray 1 Pick Assembly Tray 2 Pick Assembly Tray 3 Pick Assembly MBT Pick Assembly HCF Pick Assembly
			Cycle	Developer Mix. Drum Unit Fuser Web Fuser Unit Charger Wire/Grid T/S Corona Unit Cleaner Transfer Separating Corona Wire Ozone Filter Air Filter Conveyance Belt Idler Gear Z28 Nip Guide Plate Tray 1 Pick Assembly Tray 2 Pick Assembly Tray 3 Pick Assembly MBT Pick Assembly HCF Pick Assembly

Service	Consumables	Finisher	Standard	Limit	Tray Up/Down Motor Rear Stapler Front Stapler Paper Exit Roller Sponge Roller Middle Sponge Roller Conveyance Roller A Conveyance Motor (M1) Conveyance Motor (M7) Grip Solenoid Exit Solenoid
				Cycle	Tray Up/Down Motor Rear Stapler Front Stapler Paper Exit Roller Sponge Roller Middle Sponge Roller Conveyance Roller A Conveyance Motor (M1) Conveyance Motor (M7) Grip Solenoid Exit Solenoid
			Container	Limit	CS1 Lower Roller CS1 Upper Roller CS2 Lower Roller CS2 Upper Roller CS1 Lower P1 CS1 Upper P1 CS2 Lower P1 CS2 Upper P1 CS1 Lower P2 CS1 Upper P2 CS2 Lower P2 CS2 Upper P2
				Cycle	CS1 Lower Roller CS1 Upper Roller CS2 Lower Roller CS2 Upper Roller CS1 Lower P1 CS1 Upper P1 CS2 Lower P1 CS2 Upper P1 CS1 Lower P2 CS1 Upper P2 CS2 Lower P2 CS2 Upper P2
	Page Counter	Total Sheets Total Simplex Sheets Total Duplex Sheets			

Service	Page Counter	Paper Size	Tray 1	Simplex Duplex A3 SEF A4 LEF A4 SEF A4 Tab LEF A5 SEF (N/A) B4 SEF B5 LEF Folio SEF Ledger SEF Legal SEF Letter LEF Letter SEF Letter Tab LEF Super B SEF Custom
			Tray 2	Simplex Duplex A3 SEF A4 LEF A4 SEF A4 Tab LEF A5 SEF B4 SEF B5 LEF Folio SEF Ledger SEF Legal SEF Letter LEF Letter SEF Letter Tab LEF Super B SEF Custom

Service	Page Counter	Paper Size	Tray 3	Simplex Duplex A3 SEF A4 LEF A4 SEF A4 Tab LEF A5 SEF B4 SEF B5 LEF Folio SEF Ledger SEF Legal SEF Letter LEF Letter SEF Letter Tab LEF Super B SEF Custom
			MBT	Simplex Duplex (N/A) A3 SEF A4 LEF A4 SEF A4 Tab LEF A5 SEF (N/A) B4 SEF B5 LEF Folio SEF Ledger SEF Legal SEF Letter LEF Letter SEF Letter Tab LEF Super B SEF Custom

Service	Page Counter	Paper Size	HCF	Simplex Duplex (N/A) A3 SEF A4 LEF A4 SEF A4 Tab LEF A5 SEF (N/A) B4 SEF B5 LEF Folio SEF Ledger SEF Legal SEF Letter LEF Letter SEF Letter Tab LEF Super B SEF Custom
	Engine Config	Tray Calibration	Vertical Position	
			Tray 1 Horizontal Position	Simplex Path Duplex Path
			Tray 2 Horizontal Position	Simplex Path Duplex Path
			Tray 3 Horizontal Position	Simplex Path Duplex Path
			MBT Horizontal Position	Simplex Path Duplex Path (N/A)
			HCF Horizontal Position	Simplex Path Duplex Path
		Heat Roller Temperature		
		Print Density		
		Toner Density	Reference Over Toner Lack Toner	
		Transfer Current	TR_PWM1 TR_PWM2	
		Detach Voltage	DTC_PWM1[1] DTC_PWM2[1] DTC_PWM3[1] DTC_PWM4[1]	
	Finisher Config	Jog Adjustment	Stacker 5	Rear Jogger Front Jogger Stopper
			Stacker 6	Rear Jogger Front Jogger Stopper
			Stacker 7	Rear Jogger Front Jogger Stopper
			Stacker 8	Rear Jogger Front Jogger Stopper

1. Each value has been integrated as "DTC_PWM" since Controller Revision et106.

Backup: HDD -> NVRAM
Restore: NVRAM -> HDD
User Access: None

	INTERNAL ITEM NAME
PCL Custom Size	CustomPaperSizeFeedDirection CustomPaperSizeXFeedDirection
Toner Coverage Control	TCA
FX Flag	FX
SNMP Community Name	SnmpCommunity
Trimming Disable	TRIMOVERRIDE
Accounting Server Parameters	AccountingServerNamePrimary AccountingServerIpPrimary AccountingServerNameSecondary AccountingServerIpSecondary
Accounting Counters	SidesA4Tab SidesExecutive SidesStatement SidesCustom SidesSuperB SidesLetterTab SidesLetterSEF SidesLetterLEF SidesLegal SidesLedger SidesFolio Sides85x124 SidesB5 SidesB4 idesA5 SidesA4SEF SidesA4LEF SidesA3
SNMP Parameters	SnmpTrapHostIpx SnmpTrapHostIp
SMTP Parameters	SMTPServer

Other	NetWareReqRefFS	DISKLOCK
	NetWarePrefFS	CPLOCK
	NetWareFileServer	MANUALFEED
	NetWareNetNum	INKCOUNT
	NetWarePassword	INK
	NetWareFrameType	YRESOLUTION
	AppleTalkZoneCurrent	XRESOLUTION
	AppleTalkZoneDefault	NPAGES
	AppleTalkCheckSum	OUTPUTIMEOUT
	UdpAppBasePort	Quantity
	MulticastTimer	NCOPIES
	Rediscovery	ORIENT
	WebPageRev	HIGHSPEED
	NetworkControllerRev	DataProto
	DNSServer	Handshake
	NodeName	EMULATION
	DomainName	SNIFFEnabled
	IpxAddress	400kCounter
	Enabled	DiskSpaceFree
	REFRESHTIME	DiskSpaceTotal
	PASSWORD	MemoryFree
	DEVICENAME	MemoryTotal
	TmSrvAltServerName	OCPDimTime
	TmSrvPrimaryServerName	FinisehrCounter
	WinsServerMethod	EngineCounter
	WindsSecondaryServerIP	FOLD
	WinsPrimaryServerIP	STAPLE
	BanyanJobTimeout	TRAY2
	BanyanHopCount	TRAY1
	BanyanLoginPassword	HDWOUTHORZMARGIN
	BanyanLoginName	HDWOUTVERTMARGIN
	LpdRetry	FeedEdge
	LatKeepaliveTimer	PAPERSIZE
	LatCircuitTimer	PARPORTSTATUS
	TcpIpWindow	PAGEMODEJOG
	TcpIpTimeout	PCLOFFSET
	LatAnnouncements	PCLTRAY
	IpAnnouncements	WebServerEnabled
	LEFTMARGIN	DealerEmail
	TOPMARGIN	DiagSenderName
	Collate	DaigSenderEmail
	Protocol	EarlyWarningPubFinisherSent
	MediaWeightPolicy	EarlyWarningStapleSent
	MediaTypePolicy	EarlyWarningTonerSent
	LeadingEdgeSubstitute	UsageMeteringTimeIntervalSent
	MediaWeightSubstitute	UsageMeteringTimeInterval
	MediaTypeSubstitute	UsageMeteringPageCountSent
	FactoryDefaults	UsageMeteringPageCount
	DoStartPage	EarlyWarningJamSent
	SystemParamsPassword	EarlyWarningJam
	StartJobPassword	EarlyWarning400kSent
	StartupMode	EarlyWarning390kSent
	VinesEnabled	UsageMeteringPagerAddress
	DlcEnabled	UsageMeteringEmailAddress
	LatEnabled	UsageMeteringEmailAddress2
	Directional	EarlyWarningErrorSent
	FilterReplace	DiagErrorWarning
	FilterMatch	DiagMaintReqdPager
	StreetTalkName	diagMaintReqdEmail
	EndText	DiagMaintWarnEmail
	BeginText	DaigMaintReqdLevel
	Priority	DiagMaintWarnLevel
	Connection	DaigMaintReqdSent
	DLSTATUS	DiagMaintWarnSent
	PCLMODE	DiagMaintWarnCount
	PCLFONTSMOOTH	DiagMainWarning
	PCLFONTCOMPRESS	VideoInterfaceRev
	FONTNUM	ControlPanelSoftwareRev
	PCLCOMPLEXITY	ControlPanelHardwareRev
	FONTSRC	StartupModuleRev
	PCLEolWrap	XionicsModuleRev
	PCLLineTerm	AdobeModuleRev
	FONTSIZE	SystemModuleRev
	FONTPITCH	OperatingSystemRev
	VMI	ControllerFirmwareRev
	SYMSET	ControllerHardwareRev
	STATEPRESERVATION	CalendarTime
	DOPRINT	CalendarData
	PrinterProductName	OperaterPassword
	OUTBIN	MEDIATYPE
	PAPERSRC	XionicsRamSize
	PERSONALITY	ImageRamSize
	PJLPAGEP	PSRamSize
	CLRWARN	PDLlanguage
	PAGEPROT	ManualFeedTimeout
	RESENHANCE	FaceUp
	BLANKSUPPRESS	Jog
	BINDINGEDGE	FatalErrorAddress
	DUPLEX	EdgeToEdge
	AUTOCONT	TraySwitch

Backup: HDD -> NVRAM **Restore: NVRAM -> HDD** **User Access: OCP**
OCP Brightness
OCP Contrast
OCP Display Language
Max PaperWidth
LPD Queuing
Public R/W
Duplex-Always
Decurler
Backup data
Backup time Stamp

Backup: HDD -> NVRAM **Restore: NVRAM -> HDD** **User Access: None**	
	INTERNAL ITEM NAME
Name	Name
Printer Lot Number	SerialNumber

Jobmib Alive Time

Use this menu to set the amount of time the Job Monitoring MIB will continue to report the status of a completed print job. The range is 30 to 300 seconds in increments of 30 seconds.

When printing low volume jobs (number of pages) continuously, printing can be done more quickly by decreasing this setting. The default setting is 300 seconds.

Chapter 6
Troubleshooting Procedures

This chapter focuses on the troubleshooting process and identifies the source of common problems that may occur with the controller assembly and suggests ways of correcting them. This chapter does not attempt to provide troubleshooting information for attached computers such as Windows, for printers, or for extensive networks. Refer problems in these areas to the appropriate service departments and network administrators.

The Troubleshooting Process

The troubleshooting process is designed to eliminate the most obvious causes of failure before progressing to more complex issues. "Where Problems Occur" on page 6-1 gives an overview of the controller components and indicates areas most likely to require troubleshooting.

If the controller fails to complete its Start-up sequence and the printer does not reach Idle, the most likely cause is a loose cable or board connection. See "Errors During Start-up Diagnostics" on page 6-3 for the different error messages that are reported to the Control Panel and "Checking Internal Connections" on page 5-4.

- Try a phone check before you go to the customer site.

  "Before You Go to the Customer Site" on page 6-2 suggests areas you should check out before making a service call to the customer site. With a phone call, you can find out if the problem is a simple operating failure or a failure caused by a network or configuration change. You can ask the customer to check for loose cables on the side of the printer and loose connections at a power strip or outlet.

- Check for obvious causes of problems.

  "Preliminary On-site Checkout" on page 6-2 takes you through the initial visual checkouts you should make when you arrive at the customer site. You should check the Control Panel for an error message and see if the activity lights indicate an error condition. Then inspect the printer externally and internally for the most common problems, such as loose or faulty cables.

- Check network connections.

  "Checking Network Connections" on page 6-32 provides guidelines for checking the network connections between the printer and the computers to which it is connected as well as information on several printing problems.

Where Problems Occur

The controller as a built-in print server for the printer is generally part of a configuration like the one shown in Figure 2-1. Problems may occur in one of the following areas:

- The interface between the controller board and the printer
- The interface between the controller and computers that print to it
- The controller board or printer itself

Before You Go to the Customer Site

Before you make a service call to a customer site, talk to the customer on the phone and check out the following items:

1. Does the printer work?

   If the printer works, but the user cannot print the controller Status Page, have the customer check for any error messages in the Control Panel. If the Control Panel reports an error, check the printer interface cables between the controller and the printer.

2. Has the customer made any network changes?

   If network changes have occurred, request that the customer's network administrator verify the controller network requirements.

3. Is the user having printing problems with a particular image file?

   If there are problems with files from particular applications, the user may be more successful using different print settings.

If your telephone call fails to clear up the problem, proceed to the next phase, the preliminary on-site checkout.

Preliminary On-site Checkout

Your goal in the preliminary on-site checkout is to eliminate obvious problems, such as loose or missing cables and connectors.

Checking Connections

Before you remove the printer cover to inspect cables:

- If a PC is attached to the controller network port, make sure that the network cable is properly connected.
- Make sure the printer power cable is plugged into the wall outlet and that the printer is powered on.
- Remove the rear cover and CE box cover. Make sure the printer cables are attached to the controller board and to the printer.
- Make sure the DIMM is plugged in properly.
- Make sure the HDD cable is attached to the HDD and to the controller board.

Also, see "Checking Internal Connections" on page 5-4, as well as other sections for guidelines when disassembling, checking, and reassembling the printer. If all the connectors are in place and the problem still exists when the printer is powered on, then proceed to the next stage of troubleshooting.

Errors During Start-up Diagnostics

When you power on the printer or reboot the controller, the system goes through a series of diagnostic tests that check the controller board.

If an error occurs during the Start-up diagnostics, the display may change to the "splash display," and there will be no control from the OCP.

When you encounter any of these conditions, power off and open the printer and inspect the controller for an obviously loose part or cable. Then check the other components as suggested below. For all service, refer to "Accessing the Controller Assembly" on page 5-3. When you are done, refer to "Restoring Controller Functionality After Service" on page 5-7.

General Controller System Errors

When you start up the system or when you install system software, you may encounter error conditions that are not reported during the Start-up diagnostics. Table 6-1 lists some of these error conditions and suggests corrective action.

When you first encounter any of these error conditions, power off and open the printer and inspect the controller assembly for any obviously loose parts or cables. Then check other components as suggested below.

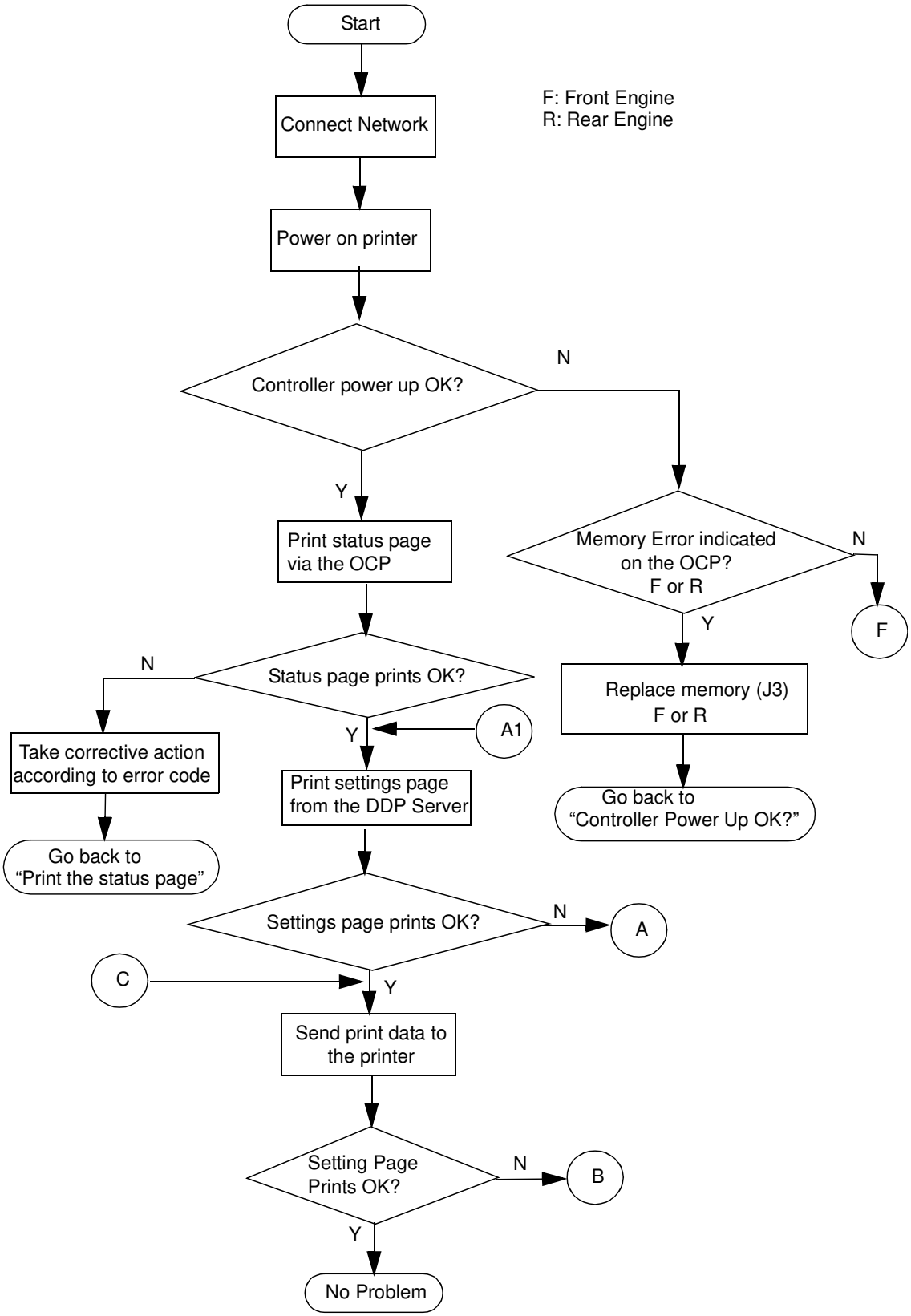
Table 6-1. General Controller System Error Conditions and Messages

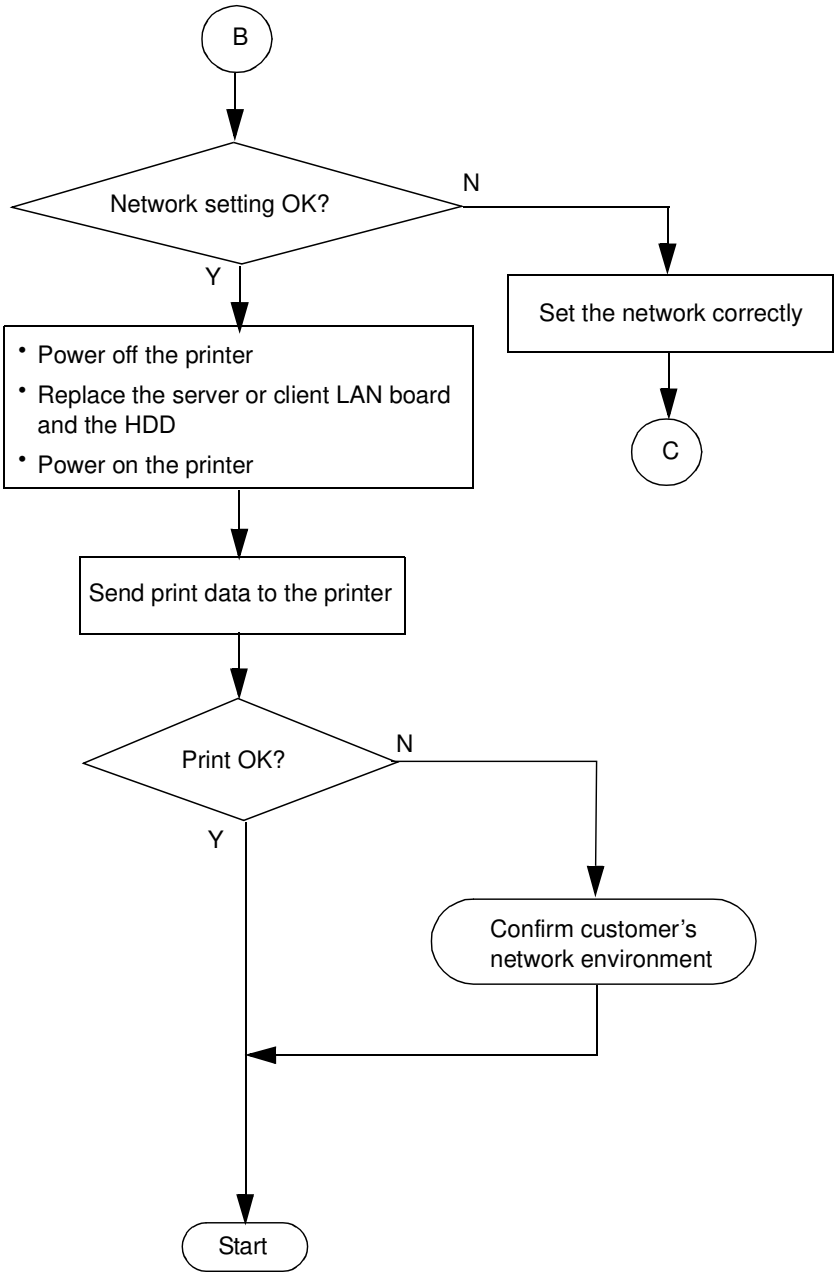
Symptom	Probable Cause	Suggested Action
Controller does not start up.	Power supply cable is not properly connected.	• Make sure that the printer power supply cable is connected to the controller assembly power supply cable at the side of the pan.
	Controller power supply has failed.	• Replace the controller power supply.
Touch pads do not work on the OCP.	Connection to the OCP is faulty or the OCP is bad.	• Check the OCP cable connections to the controller board. • Power on the printer. • If the problem persists, replace the cable. • If the problem still persists, replace the OCP.
	Faulty chip on the controller.	• Replace the controller board.

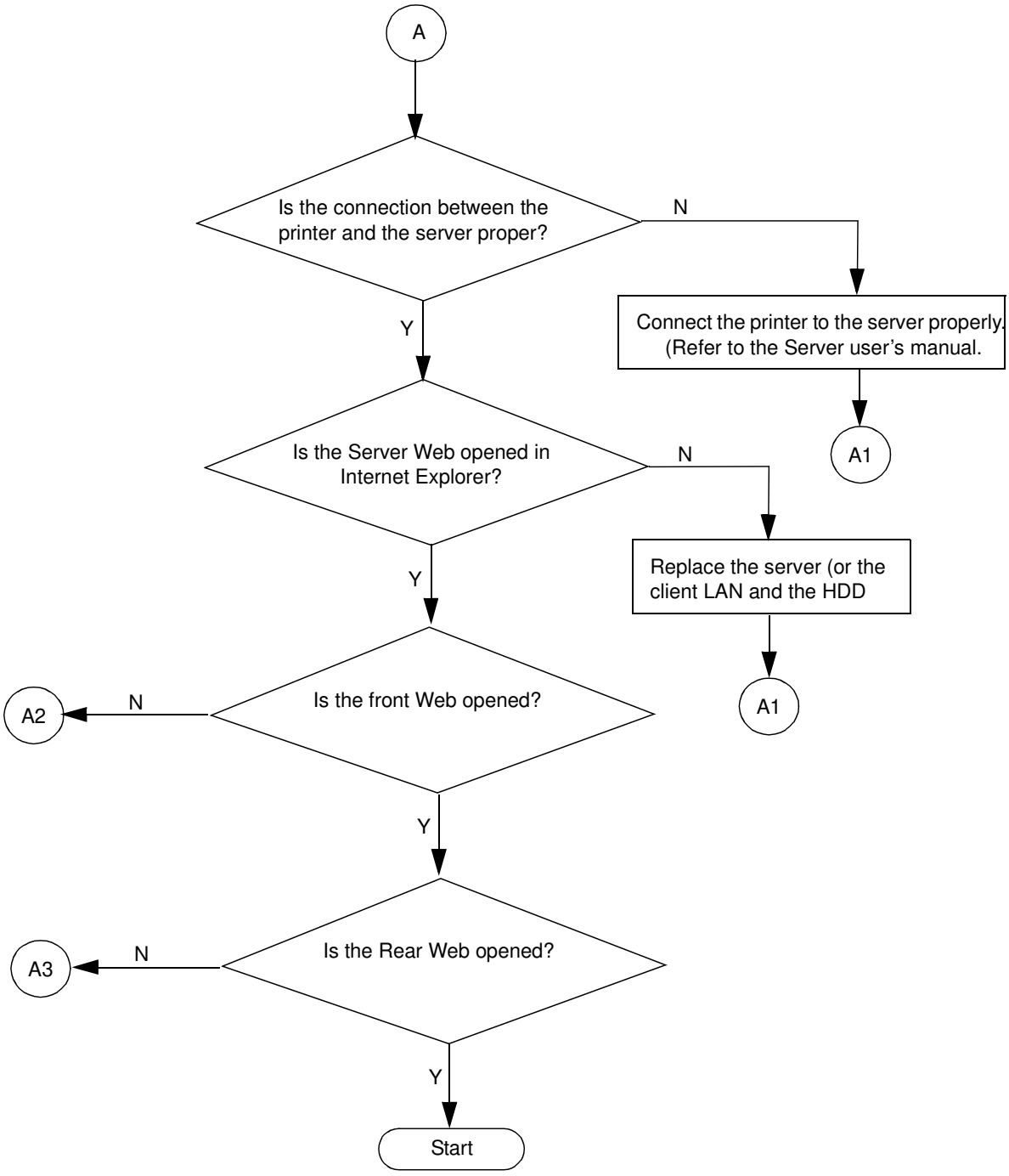
Table 6-1. General Controller System Error Conditions and Messages (Continued)

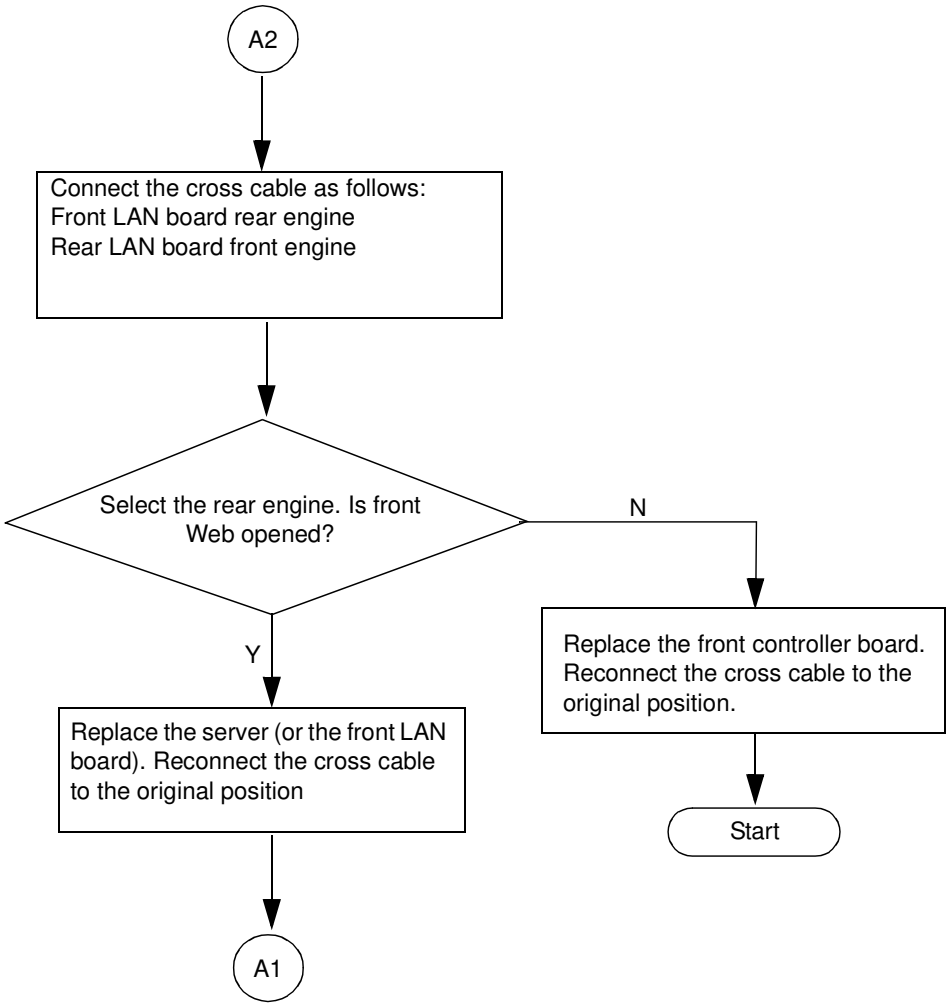
Symptom	Probable Cause	Suggested Action
Nothing appears on the OCP when the printer is powered on.	Power connection to the OCP is faulty or the OCP is faulty.	• Check the power cable connection to the OCP board and the power supply. • Power on the printer. • If the problem persists, replace the OCP cable. • If the problem persists, replace the OCP. • If the problem still persists, replace the controller board.
	Faulty controller power supply.	• Check power supply cable connections to the power supply, relay board, and controller board (see "Checking Internal Connections" on page 5-4). • If problem persists, replace the power supply.
Controller hangs at the Loading system. or the Loading settings. screen.	System software is not installed on the hard disk drive.	• Install system software.
	Faulty HDD.	• Replace the HDD.
	Faulty controller board.	• Replace the controller board.
Printer does not print.	Faulty controller board	• Check the cable connections at J13 and J14. • Replace the controller board.
	Faulty HDD.	• Replace the HDD.
Splash screen on OCP after "Warm up" is completed. (Main Menu does not display.)	HDD is faulty.	• Power cycle. • Check HDD cable connection. • Replace HDD.
	OCP is faulty.	• Check OCP cable. • Replace OCP.
	Controller is faulty.	• Replace the controller board.

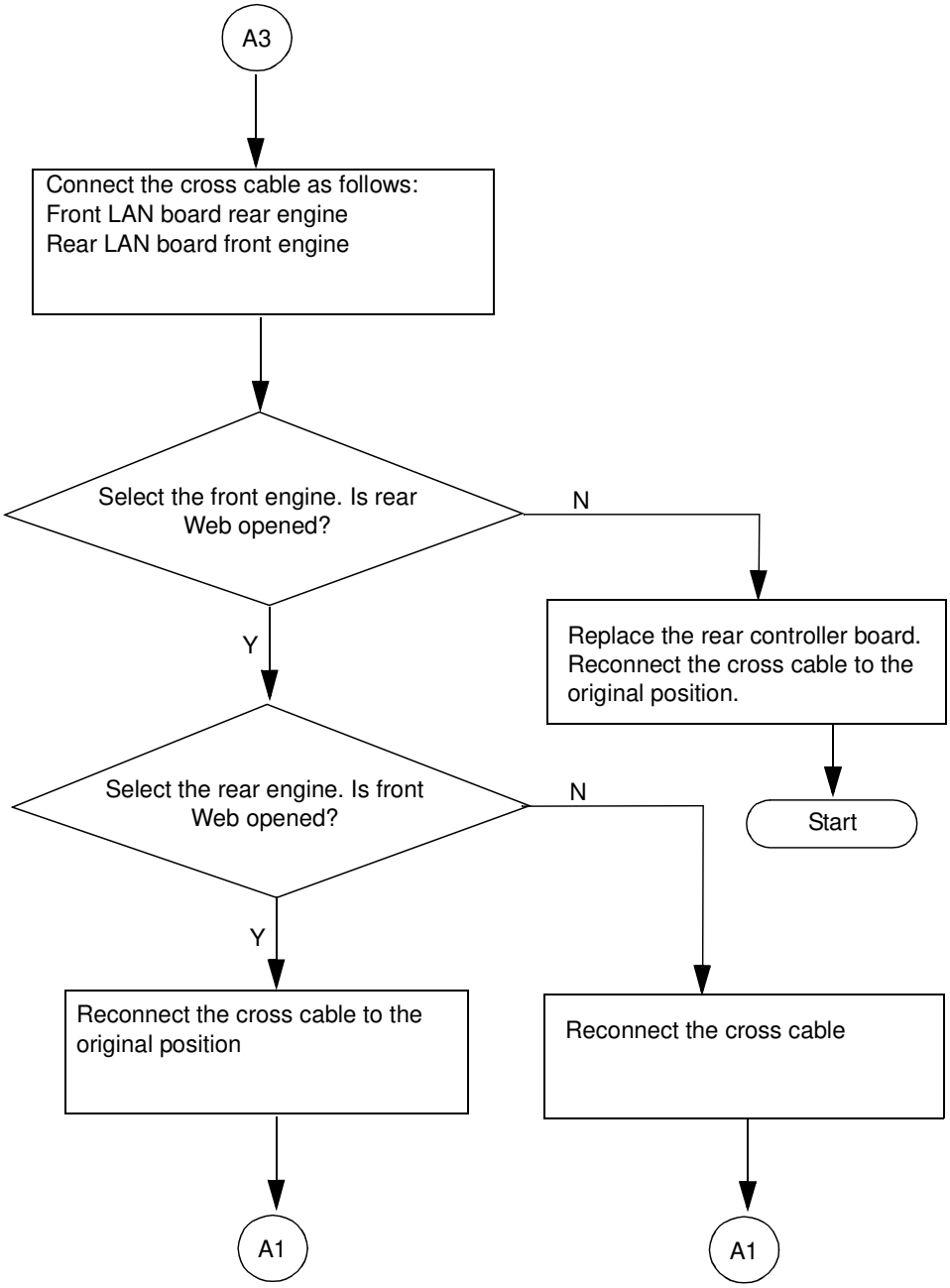
The Controller Status Flowchart (CL106/CL107)

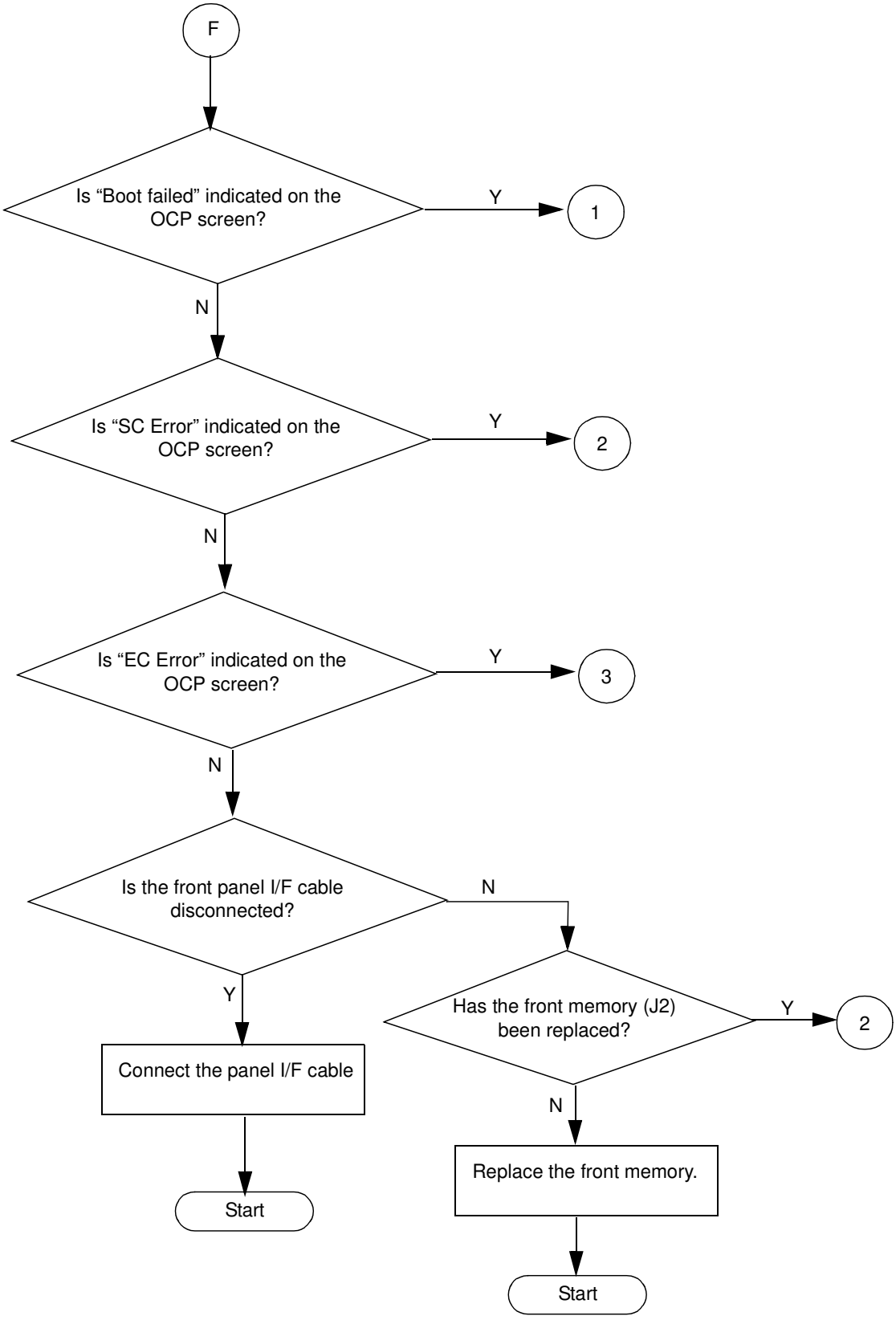


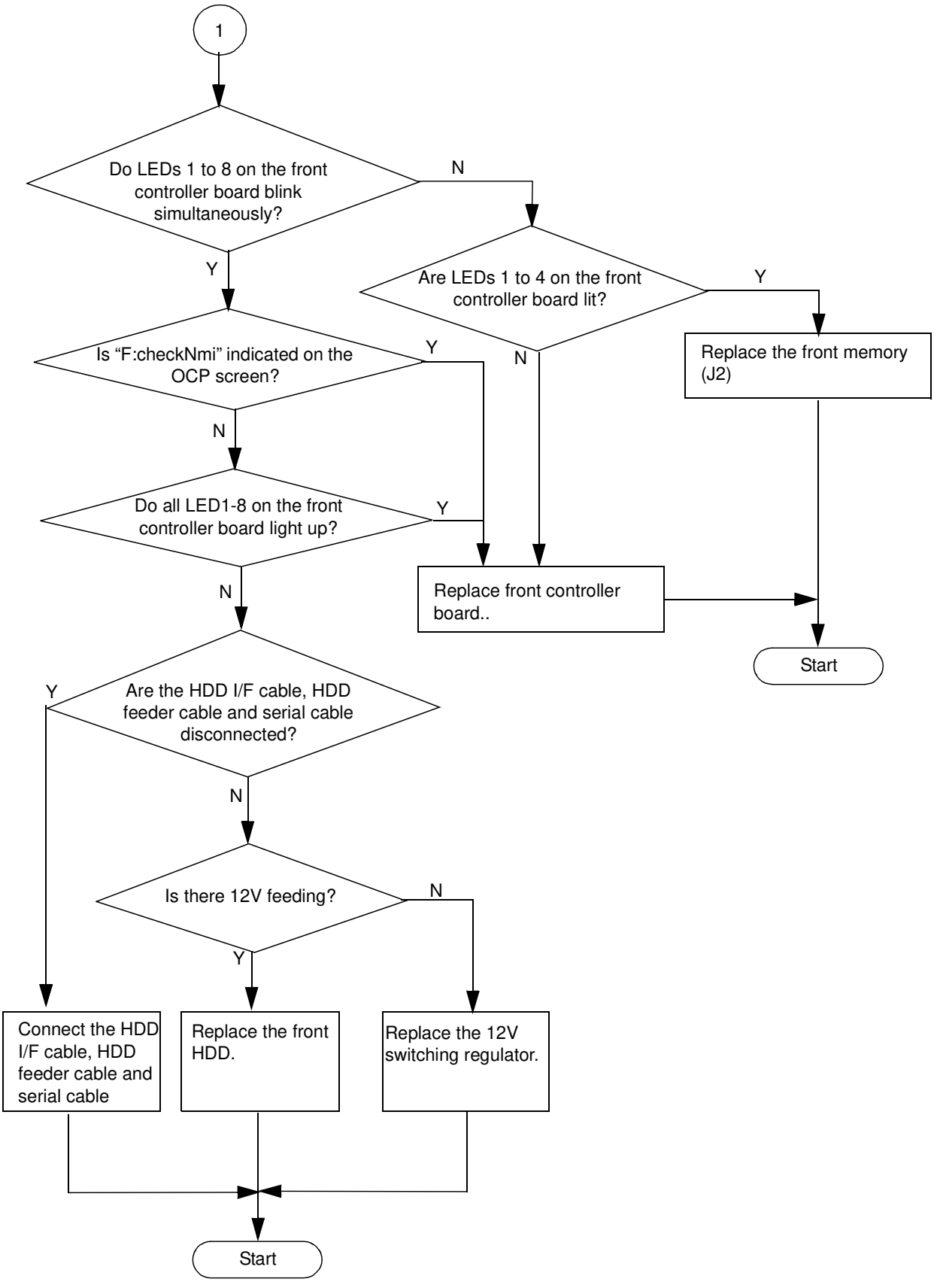

B
Network setting OK?
N
Y
Set the network correctly
C
• Power off the printer
• Replace the server or client LAN board and the HDD
• Power on the printer
Send print data to the printer
Print OK?
N
Y
Confirm customer's network environment
Start

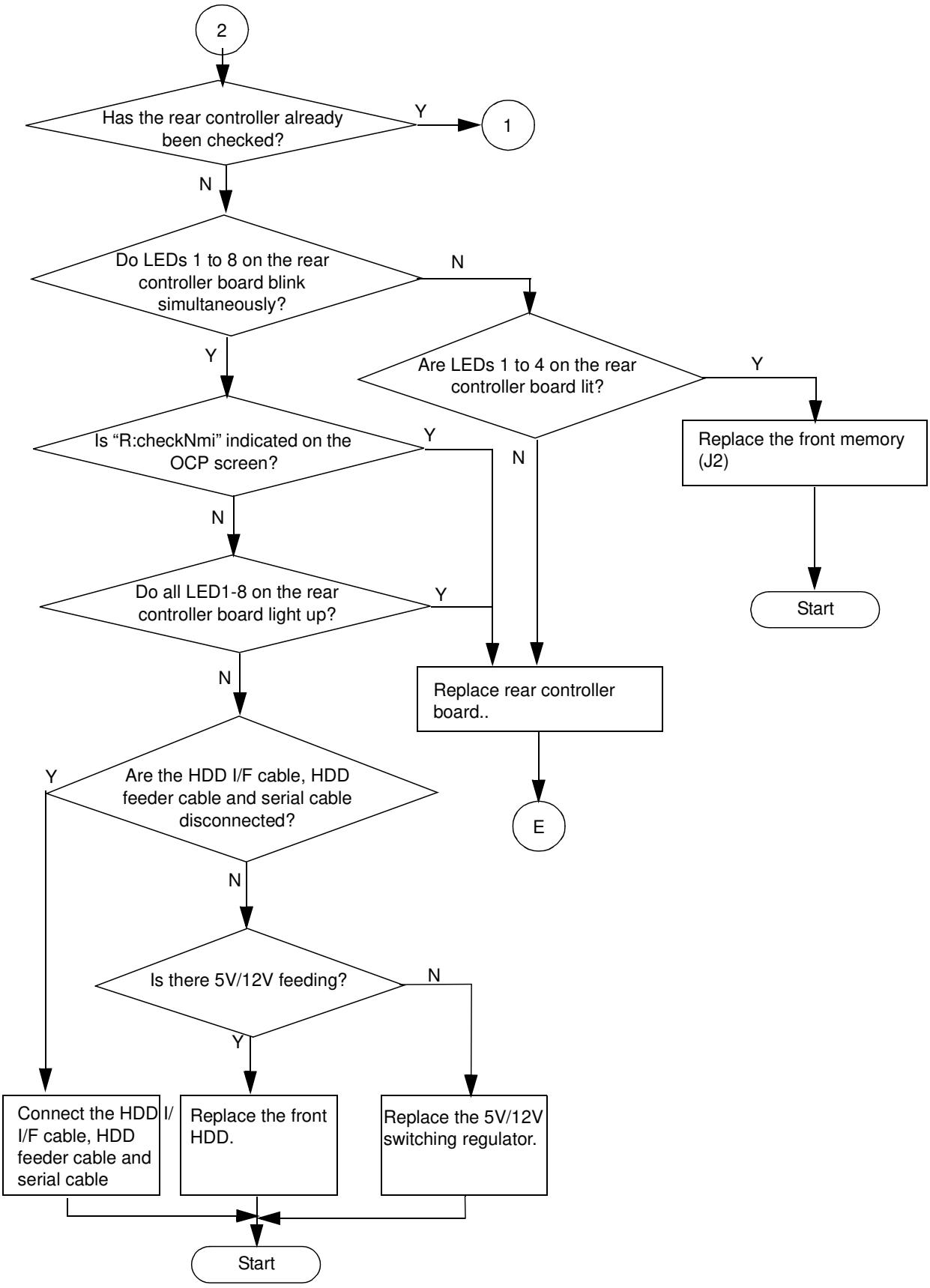

A
Is the connection between the printer and the server proper?
N
Connect the printer to the server properly. (Refer to the Server user's manual.
A1
Y
Is the Server Web opened in Internet Explorer?
N
A1
Replace the server (or the client LAN and the HDD
Y
Is the front Web opened?
N
A2
A1
Y
Is the Rear Web opened?
N
A3
Y
Start

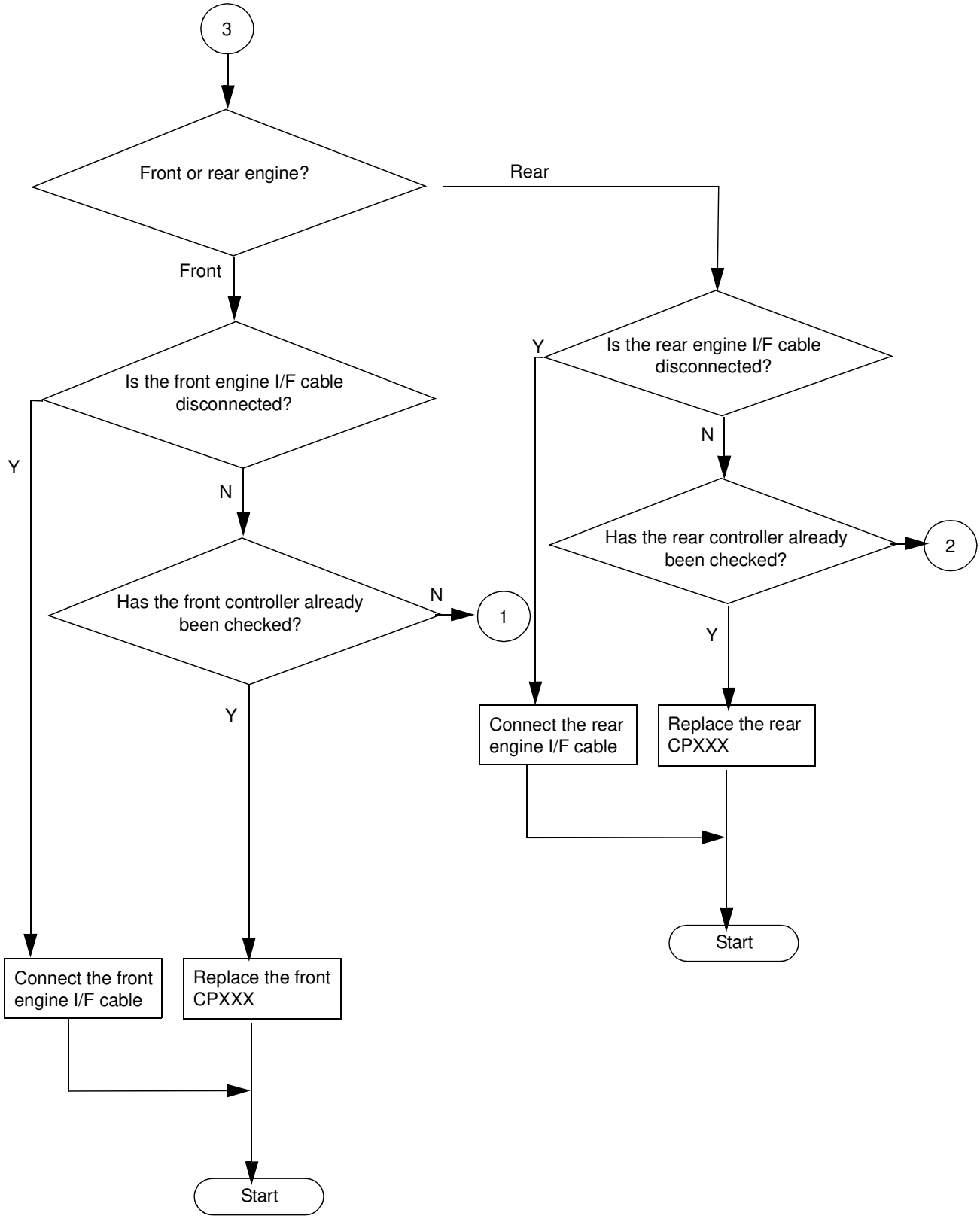

A2
Connect the cross cable as follows:
Front LAN board rear engine
Rear LAN board front engine
Select the rear engine. Is front Web opened?
N
Y
Replace the front controller board. Reconnect the cross cable to the original position.
Start
Replace the server (or the front LAN board). Reconnect the cross cable to the original position
A1

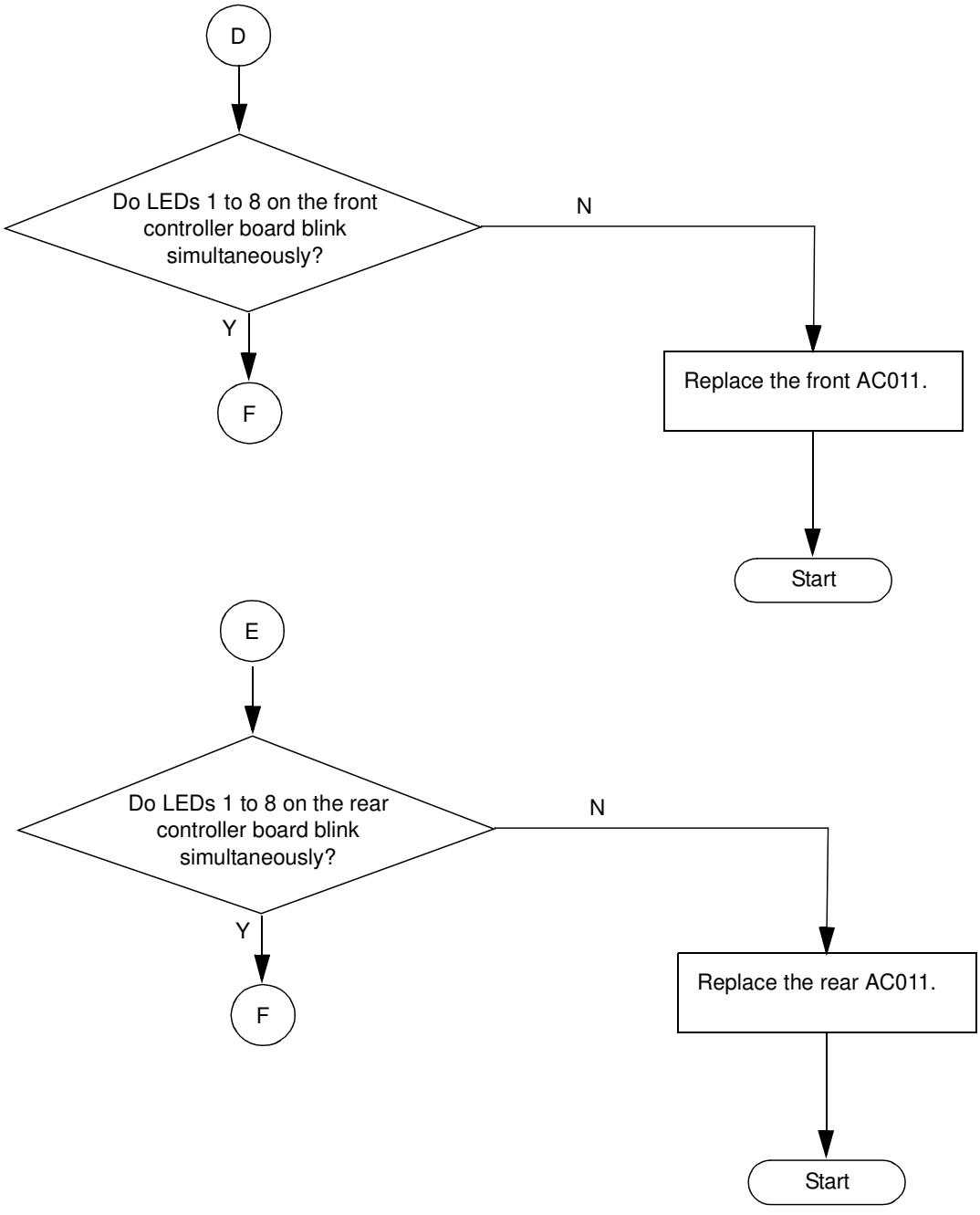

A3
Connect the cross cable as follows:
Front LAN board rear engine
Rear LAN board front engine
Select the front engine. Is rear Web opened?
N
Y
Replace the rear controller board. Reconnect the cross cable to the original position.
Start
Select the rear engine. Is front Web opened?
N
Y
Reconnect the cross cable to the original position
Reconnect the cross cable
A1
A1


F
Is “Boot failed” indicated on the OCP screen?
Y
1
N
Is “SC Error” indicated on the OCP screen?
Y
2
N
Is “EC Error” indicated on the OCP screen?
Y
3
N
Is the front panel I/F cable disconnected?
N
Y
Connect the panel I/F cable
Start
Has the front memory (J2) been replaced?
Y
2
N
Replace the front memory.
Start

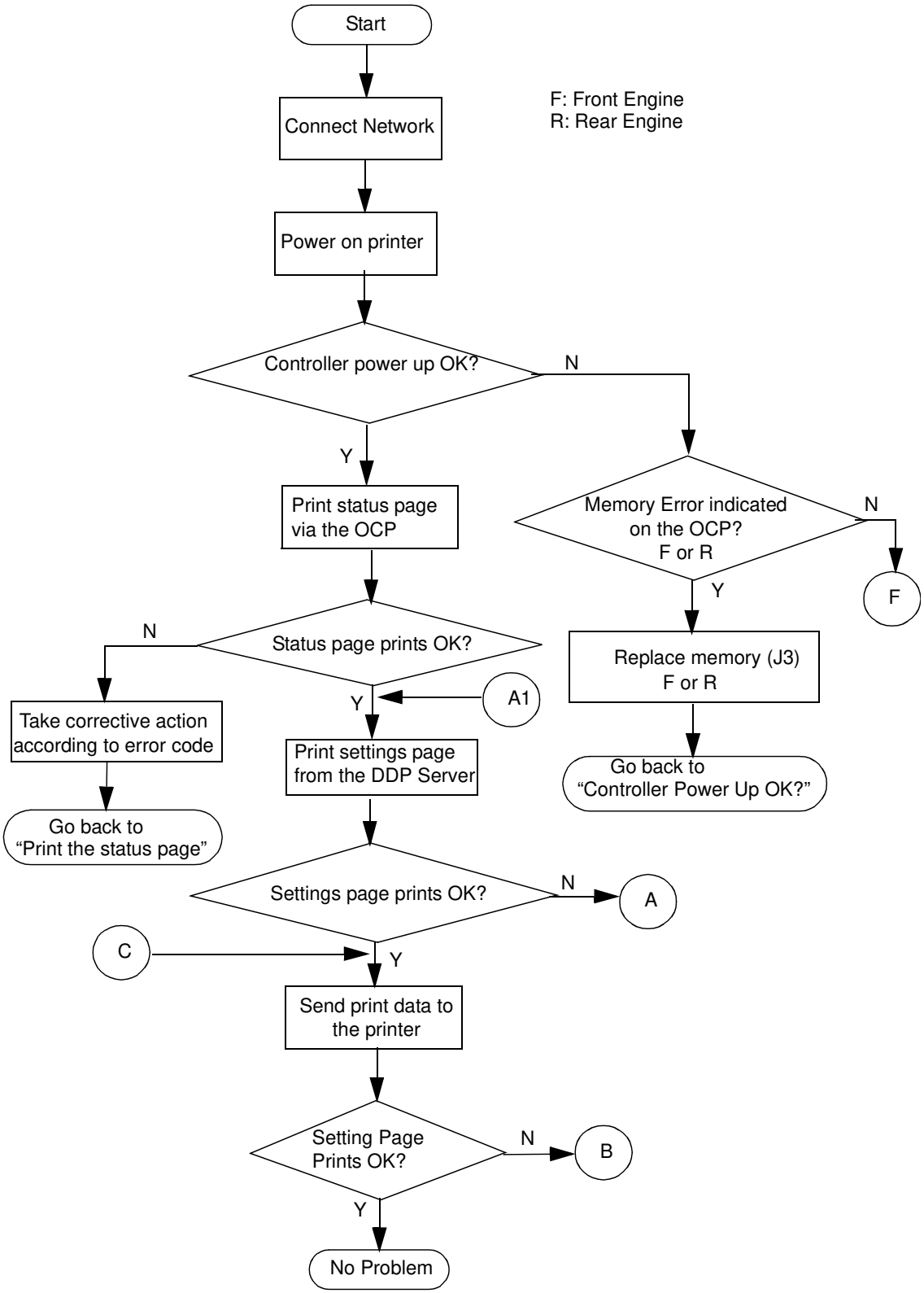

1
Do LEDs 1 to 8 on the front controller board blink simultaneously?
N
Y
Are LEDs 1 to 4 on the front controller board lit?
Y
N
Replace the front memory (J2)
Is “F:checkNmi” indicated on the OCP screen?
Y
N
Do all LED1-8 on the front controller board light up?
Y
N
Replace front controller board..
Start
Y
Are the HDD I/F cable, HDD feeder cable and serial cable disconnected?
N
Is there 12V feeding?
N
Y
Connect the HDD I/F cable, HDD feeder cable and serial cable
Replace the front HDD.
Replace the 12V switching regulator.
Start

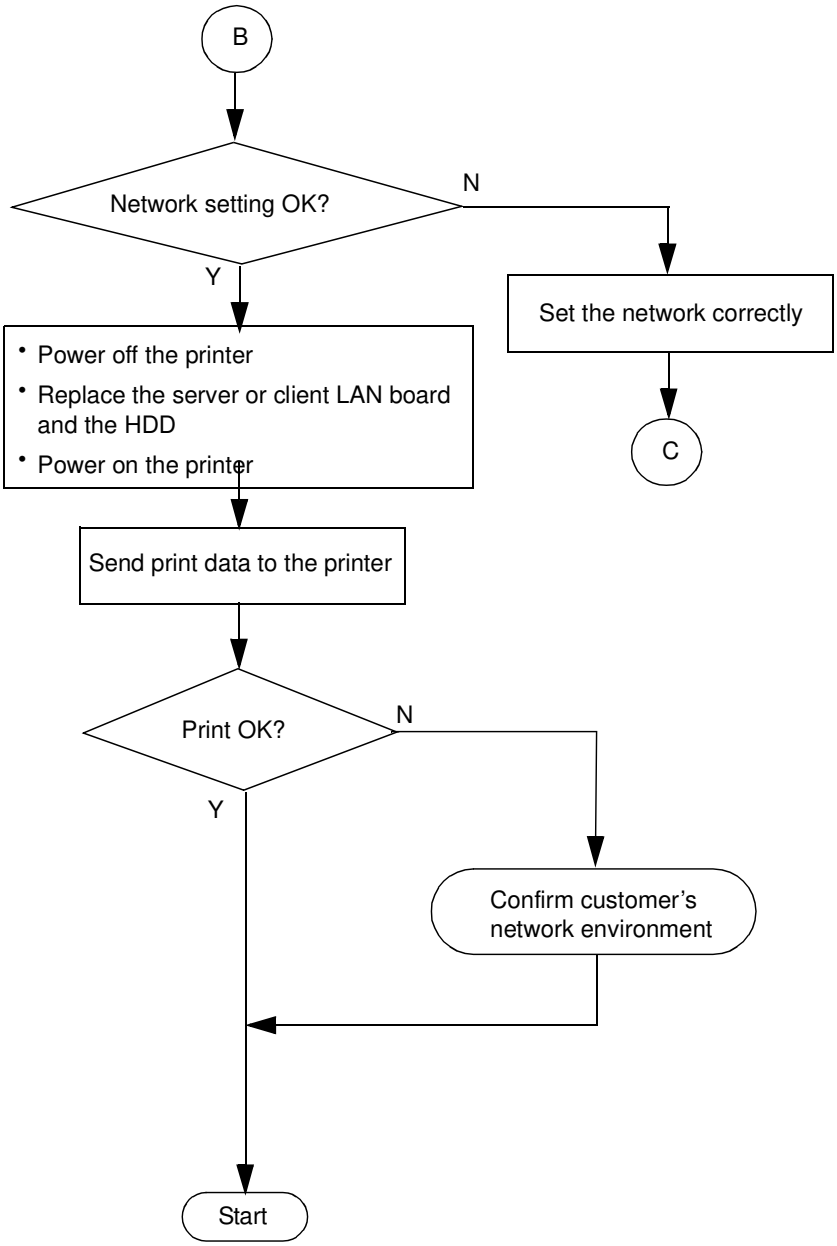

2
Has the rear controller already been checked?
Y
1
N
Do LEDs 1 to 8 on the rear controller board blink simultaneously?
N
Y
Are LEDs 1 to 4 on the rear controller board lit?
Y
Replace the front memory (J2)
Start
Is “R:checkNmi” indicated on the OCP screen?
Y
N
N
Do all LED1-8 on the rear controller board light up?
Y
N
Replace rear controller board..
E
Y
Are the HDD I/F cable, HDD feeder cable and serial cable disconnected?
N
Is there 5V/12V feeding?
N
Y
Connect the HDD I/F cable, HDD feeder cable and serial cable
Replace the front HDD.
Replace the 5V/12V switching regulator.
Start

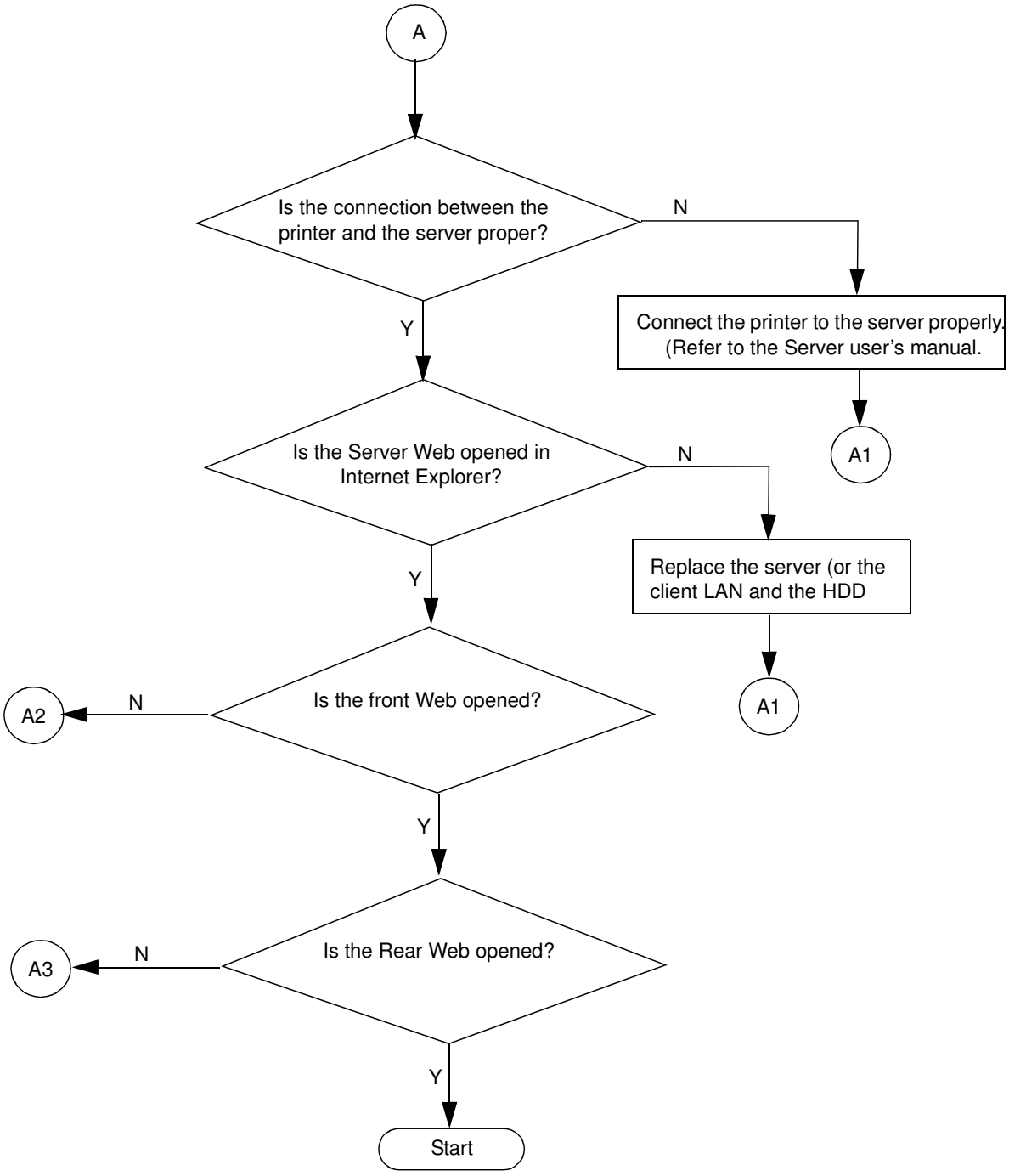

3
Front or rear engine?
Rear
Front
Is the front engine I/F cable disconnected?
Y
N
Has the front controller already been checked?
N
1
Y
Connect the front engine I/F cable
Replace the front CPXXX
Start
Y
Is the rear engine I/F cable disconnected?
N
Has the rear controller already been checked?
2
Y
Connect the rear engine I/F cable
Replace the rear CPXXX
Start

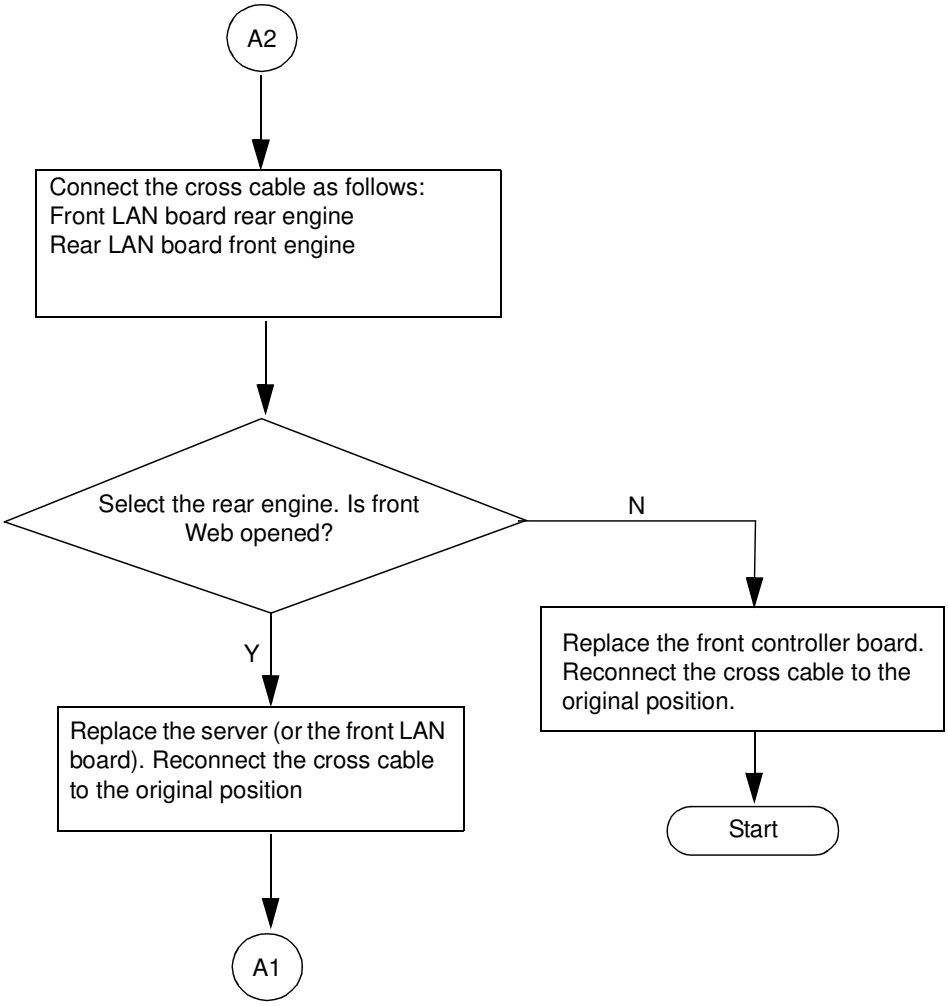

D
Do LEDs 1 to 8 on the front controller board blink simultaneously?
N
Y
F
Replace the front AC011.
Start
E
Do LEDs 1 to 8 on the rear controller board blink simultaneously?
N
Y
F
Replace the rear AC011.
Start

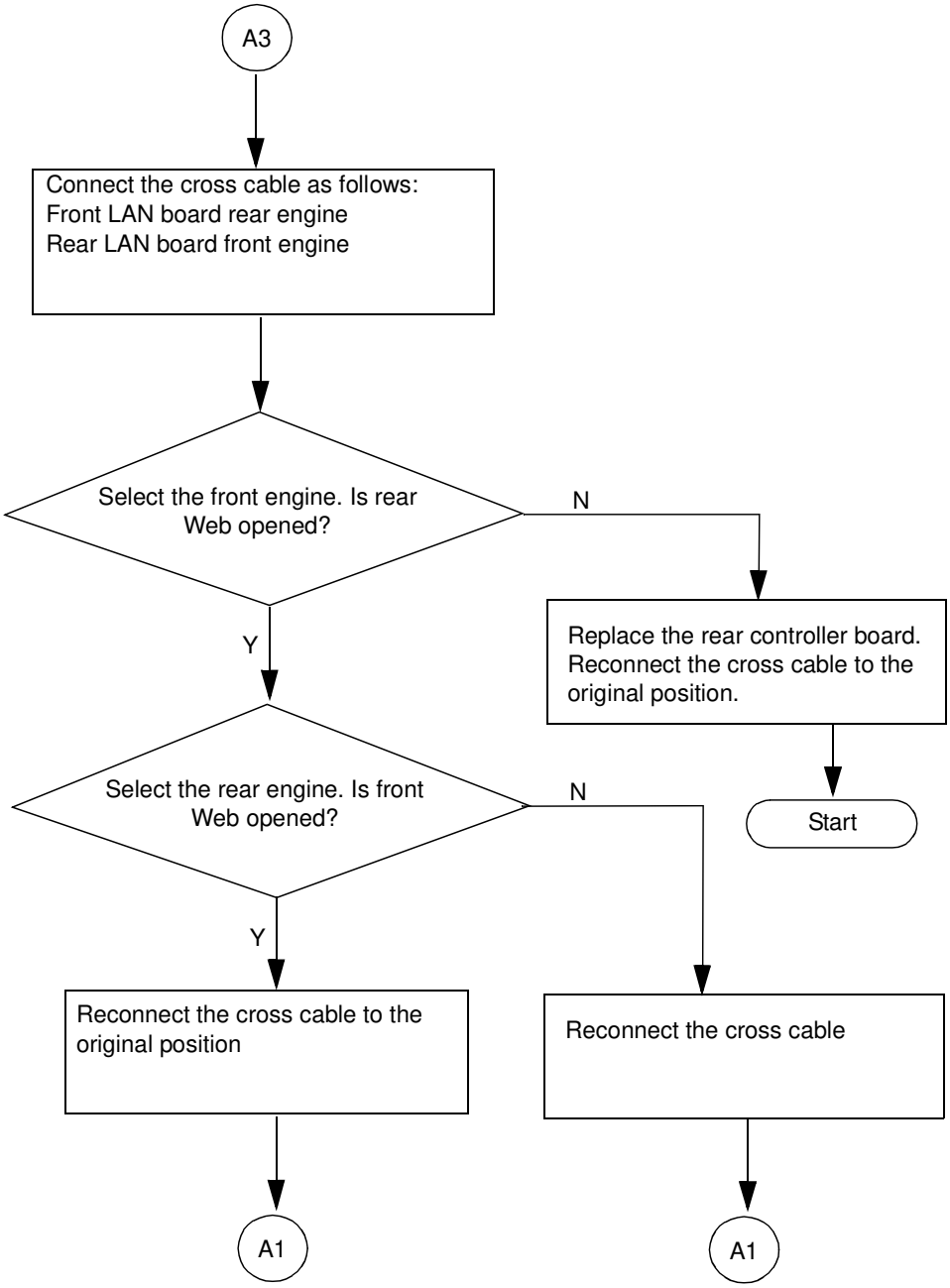
The Controller Status Flowchart (CL143/CL144)

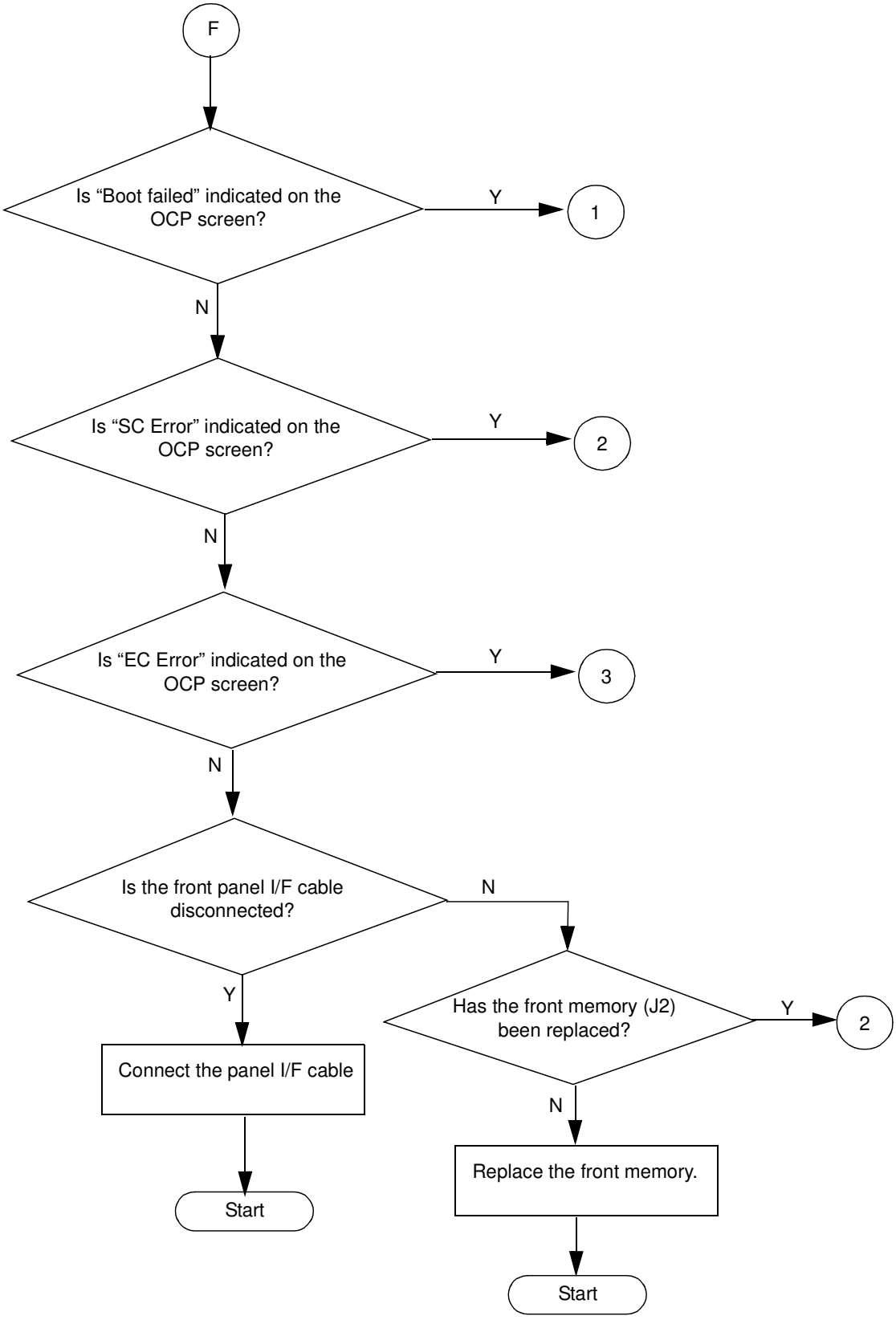


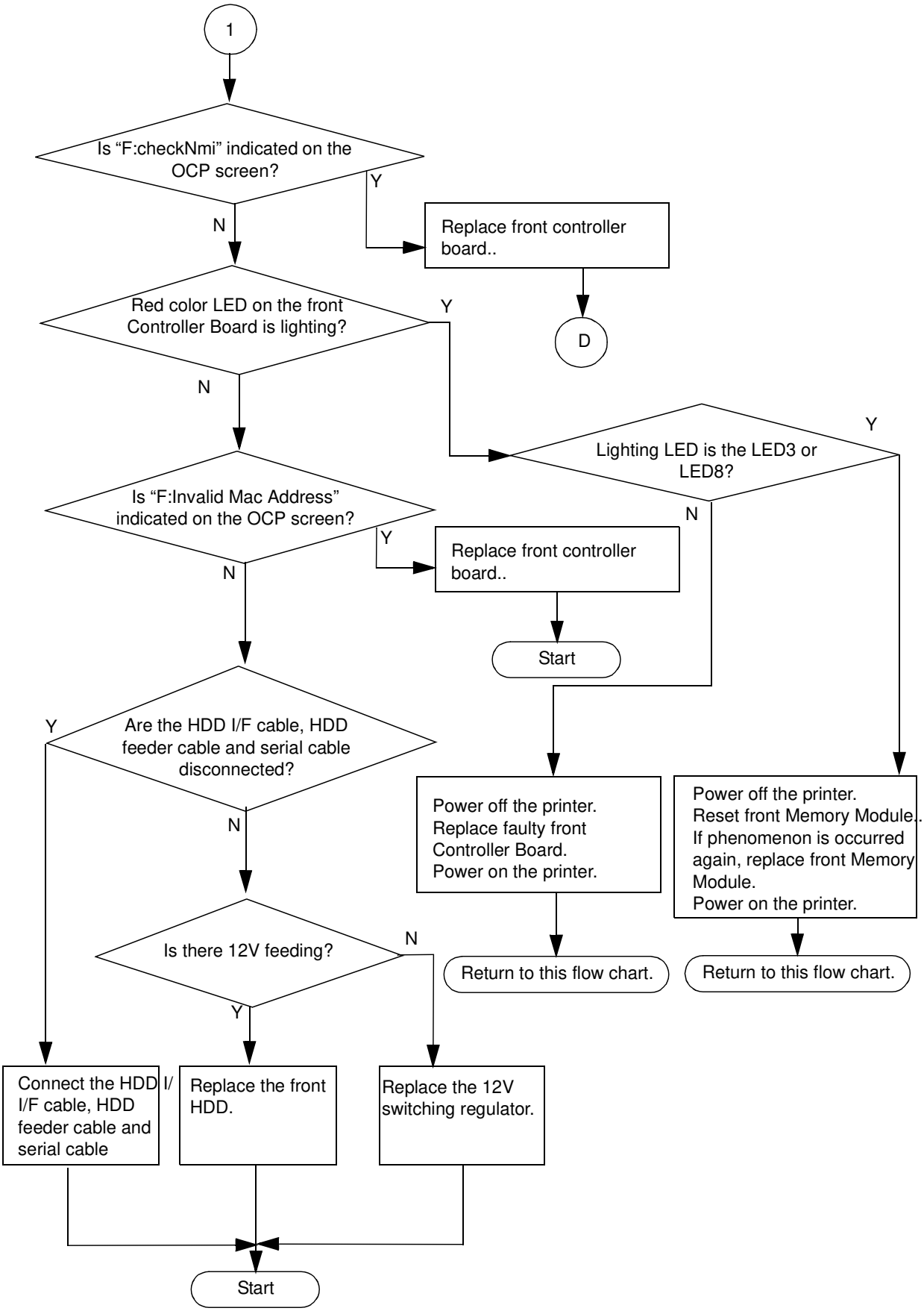

B
Network setting OK?
N
Y
Set the network correctly
C
• Power off the printer
• Replace the server or client LAN board and the HDD
• Power on the printer
Send print data to the printer
Print OK?
N
Y
Confirm customer's network environment
Start

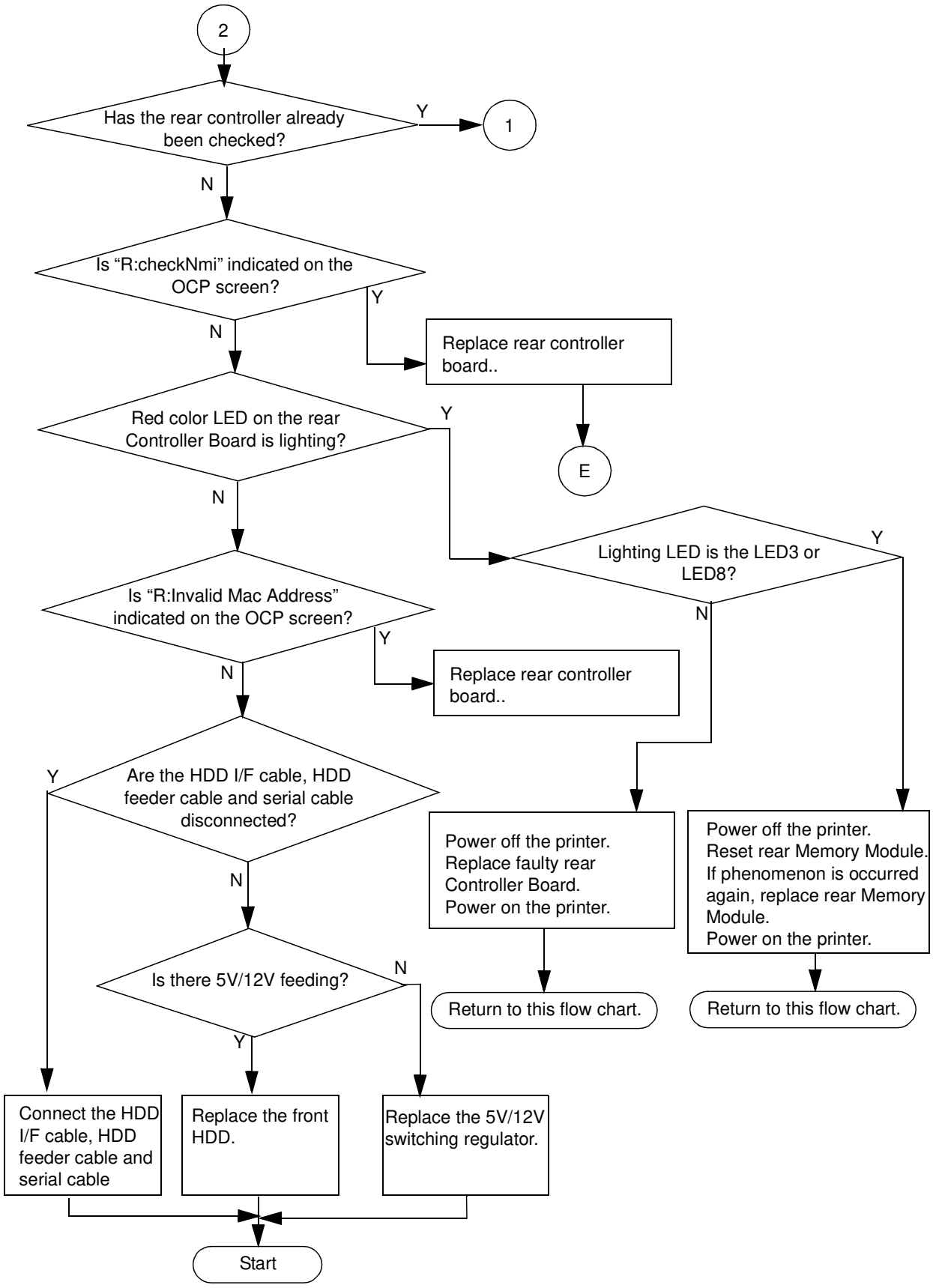

A
Is the connection between the printer and the server proper?
N
Connect the printer to the server properly. (Refer to the Server user's manual.
A1
Y
Is the Server Web opened in Internet Explorer?
N
A1
Replace the server (or the client LAN and the HDD
Y
Is the front Web opened?
N
A2
A1
Y
Is the Rear Web opened?
N
A3
Y
Start

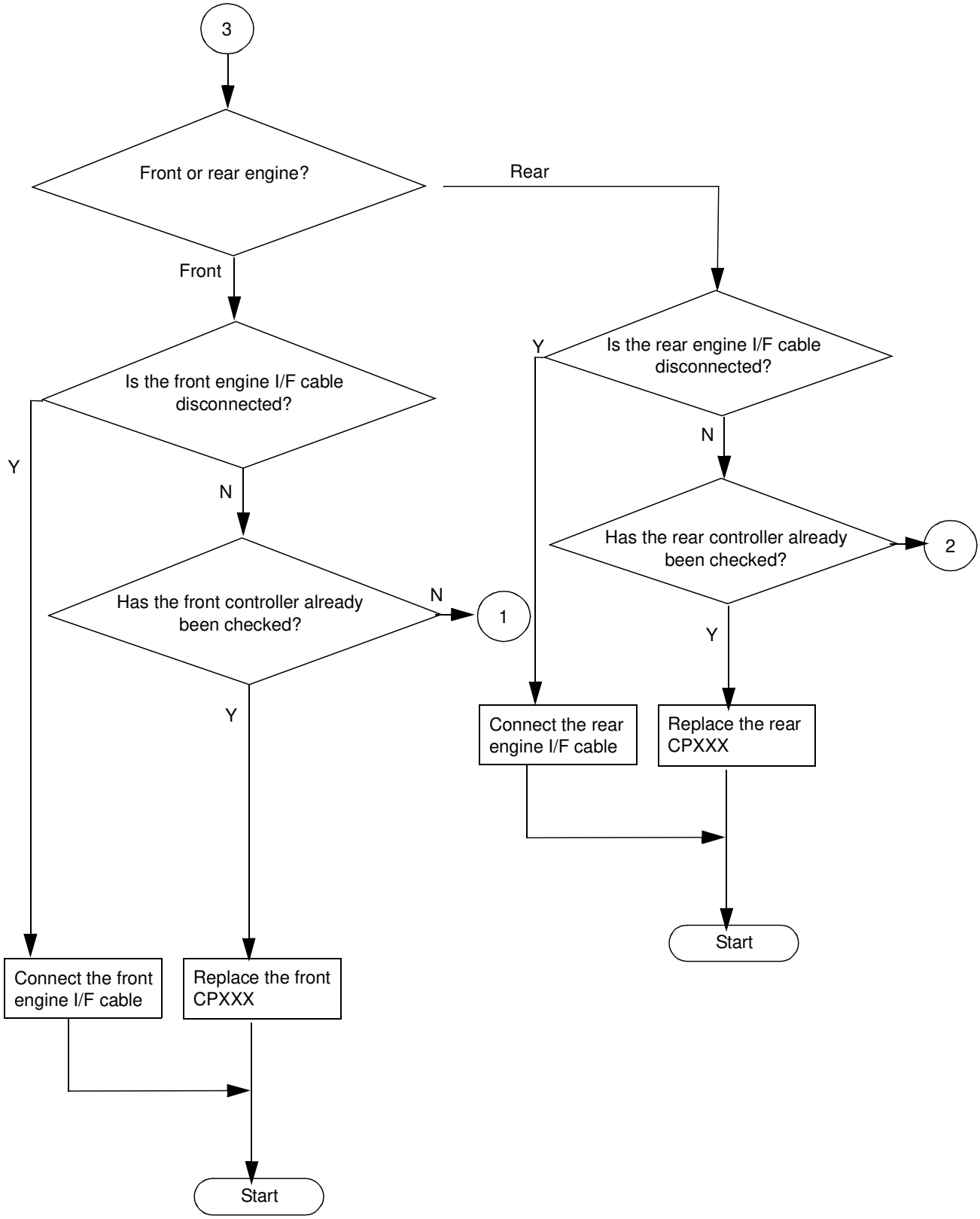

A2
Connect the cross cable as follows:
Front LAN board rear engine
Rear LAN board front engine
Select the rear engine. Is front Web opened?
N
Y
Replace the front controller board. Reconnect the cross cable to the original position.
Start
Replace the server (or the front LAN board). Reconnect the cross cable to the original position
A1

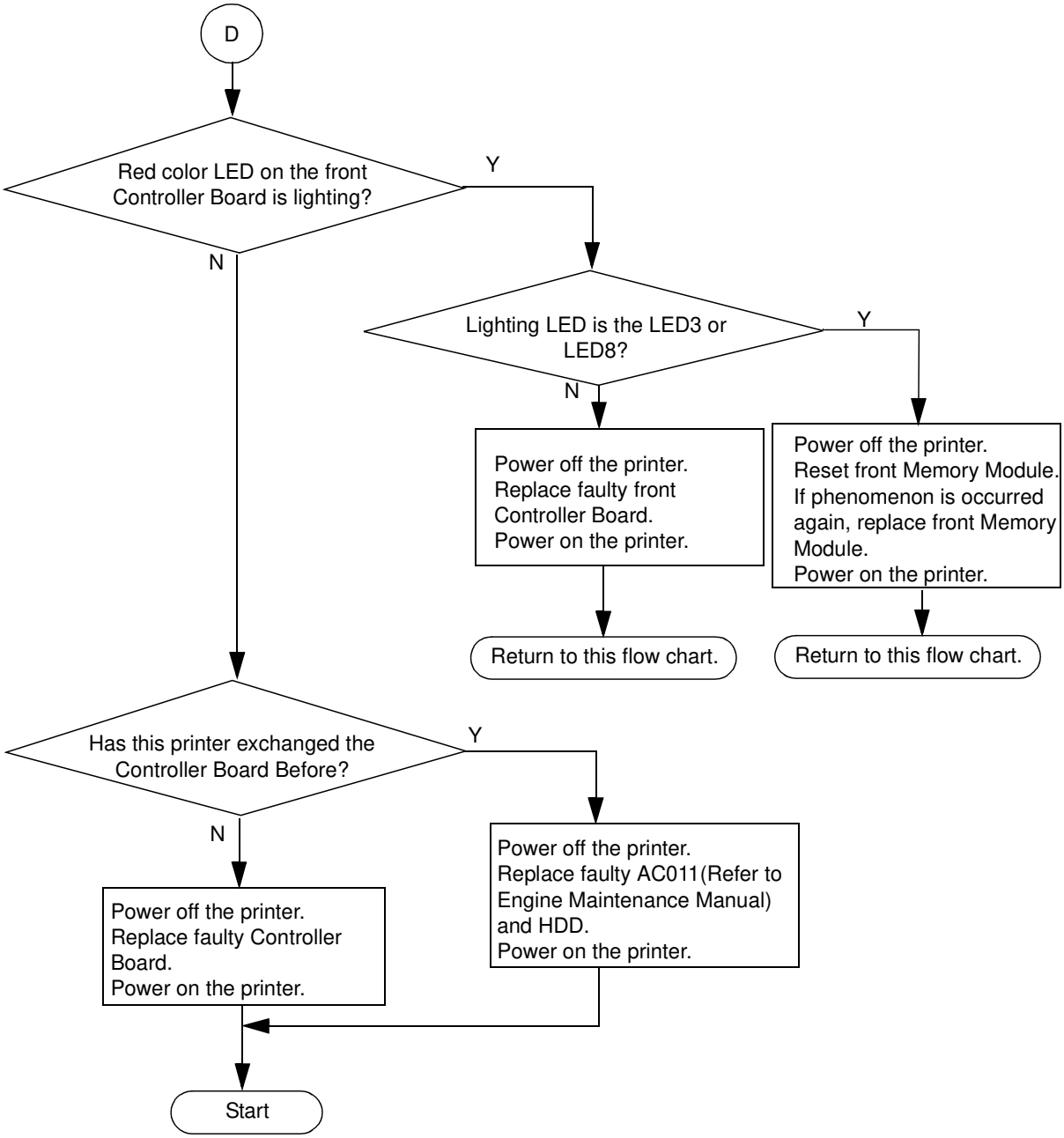

A3
Connect the cross cable as follows:
Front LAN board rear engine
Rear LAN board front engine
Select the front engine. Is rear Web opened?
N
Y
Replace the rear controller board. Reconnect the cross cable to the original position.
Start
Select the rear engine. Is front Web opened?
N
Y
Reconnect the cross cable to the original position
Reconnect the cross cable
A1
A1

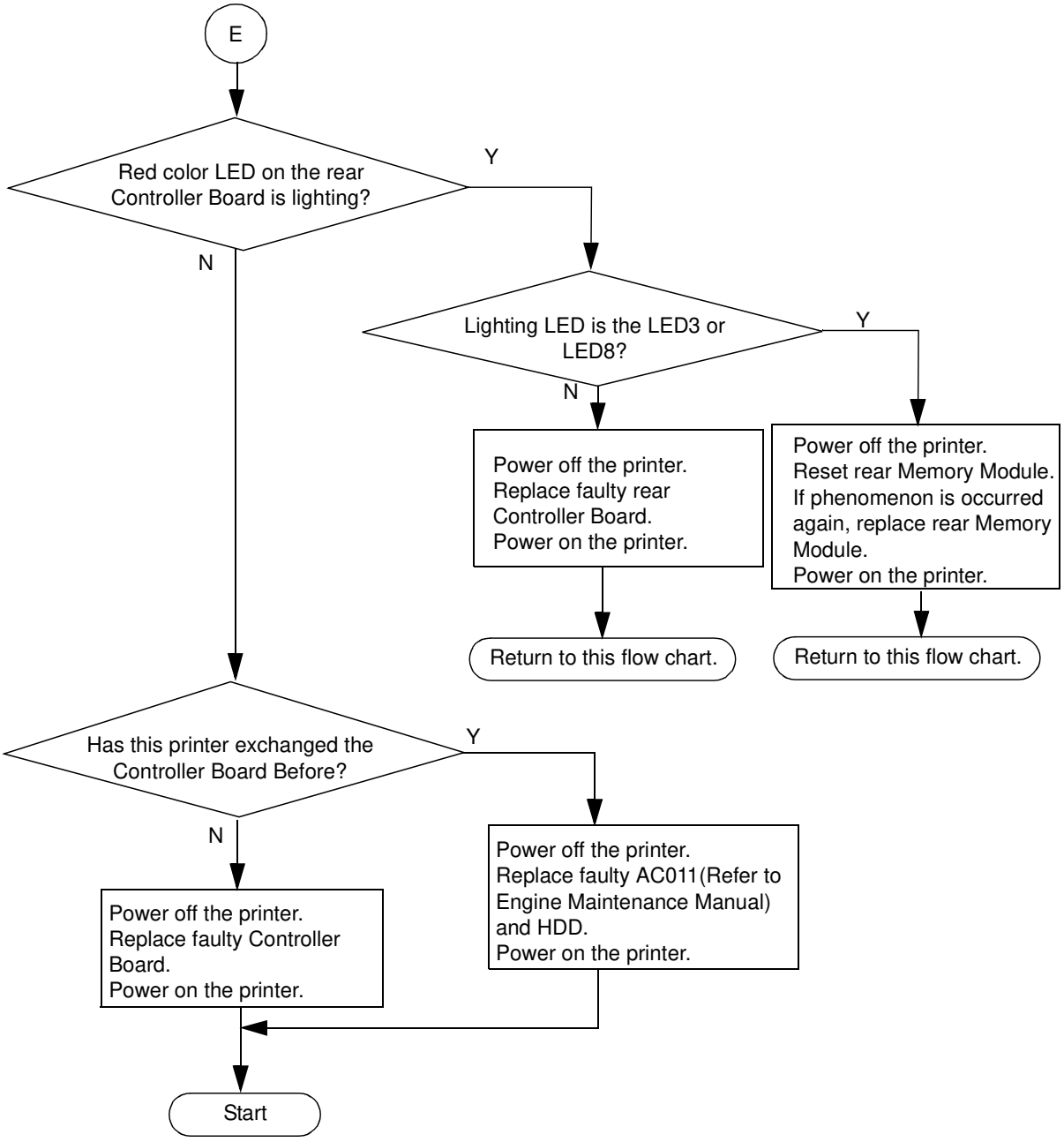

F
Is “Boot failed” indicated on the OCP screen?
Y
1
N
Is “SC Error” indicated on the OCP screen?
Y
2
N
Is “EC Error” indicated on the OCP screen?
Y
3
N
Is the front panel I/F cable disconnected?
N
Y
Connect the panel I/F cable
Start
Has the front memory (J2) been replaced?
Y
2
N
Replace the front memory.
Start


1
Is “F:checkNmi” indicated on the OCP screen?
Y
N
Replace front controller board..
D
Red color LED on the front Controller Board is lighting?
Y
N
Lighting LED is the LED3 or LED8?
Y
N
Is “F:Invalid Mac Address” indicated on the OCP screen?
Y
N
Replace front controller board..
Start
Are the HDD I/F cable, HDD feeder cable and serial cable disconnected?
Y
N
Power off the printer.
Replace faulty front Controller Board.
Power on the printer.
Power off the printer.
Reset front Memory Module.
If phenomenon is occurred again, replace front Memory Module.
Power on the printer.
Is there 12V feeding?
N
Y
Return to this flow chart.
Return to this flow chart.
Connect the HDD I/F cable, HDD feeder cable and serial cable
Replace the front HDD.
Replace the 12V switching regulator.
Start


2
Has the rear controller already been checked?
Y
1
N
Is “R:checkNmi” indicated on the OCP screen?
Y
Replace rear controller board..
N
Red color LED on the rear Controller Board is lighting?
Y
E
N
Lighting LED is the LED3 or LED8?
Y
N
Is “R:Invalid Mac Address” indicated on the OCP screen?
Y
Replace rear controller board..
N
Y
Are the HDD I/F cable, HDD feeder cable and serial cable disconnected?
Power off the printer.
Replace faulty rear Controller Board.
Power on the printer.
Power off the printer.
Reset rear Memory Module.
If phenomenon is occurred again, replace rear Memory Module.
Power on the printer.
N
Is there 5V/12V feeding?
N
Return to this flow chart.
Return to this flow chart.
Y
Connect the HDD I/F cable, HDD feeder cable and serial cable
Replace the front HDD.
Replace the 5V/12V switching regulator.
Start


3
Front or rear engine?
Rear
Front
Is the front engine I/F cable disconnected?
Y
N
Has the front controller already been checked?
N
1
Y
Connect the front engine I/F cable
Replace the front CPXXX
Start
Y
Is the rear engine I/F cable disconnected?
N
Has the rear controller already been checked?
2
Y
Connect the rear engine I/F cable
Replace the rear CPXXX
Start


D
Red color LED on the front Controller Board is lighting?
Y
N
Lighting LED is the LED3 or LED8?
Y
N
Power off the printer.
Replace faulty front Controller Board.
Power on the printer.
Power off the printer.
Reset front Memory Module.
If phenomenon is occurred again, replace front Memory Module.
Power on the printer.
Return to this flow chart.
Return to this flow chart.
Has this printer exchanged the Controller Board Before?
Y
N
Power off the printer.
Replace faulty AC011(Refer to Engine Maintenance Manual) and HDD.
Power on the printer.
Power off the printer.
Replace faulty Controller Board.
Power on the printer.
Start


E
Red color LED on the rear Controller Board is lighting?
Y
N
Lighting LED is the LED3 or LED8?
Y
N
Power off the printer.
Replace faulty rear Controller Board.
Power on the printer.
Power off the printer.
Reset rear Memory Module.
If phenomenon is occurred again, replace rear Memory Module.
Power on the printer.
Return to this flow chart.
Return to this flow chart.
Has this printer exchanged the Controller Board Before?
Y
N
Power off the printer.
Replace faulty AC011(Refer to Engine Maintenance Manual) and HDD.
Power on the printer.
Power off the printer.
Replace faulty Controller Board.
Power on the printer.
Start

OCP Display Messages

The OCP displays the printer status with 1-to-2-line messages that appear on the LCD screen. The following table lists the messages. Each message is explained and a corrective action is given when applicable.

Operates it as follows and it changes into the display of English, when the display of OCP is Japanese.

Setup / Language / English

1. The status of the printer

The printer displays the status of the printer in the Status Bar.

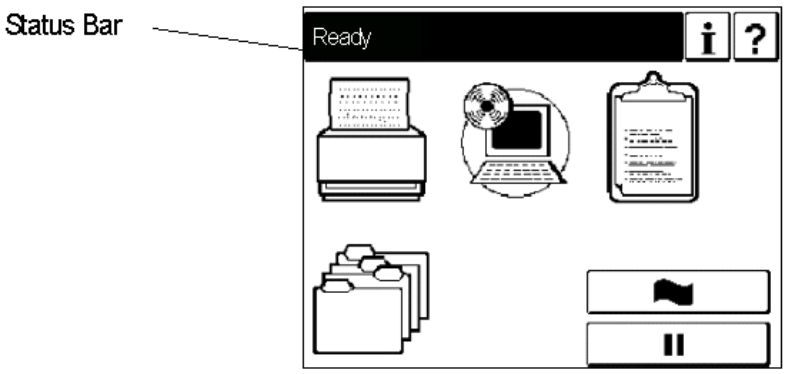


Table 6-2. The status of the printer

Message	Description	Corrective Action
Ready	The printer has warmed up and initialized and is idle while waiting for data.	-
Pause / Offline	The printer was taken offline.	Touch " ▶ " to return to Ready status.
Printing Copy xxx of yyy	For example : Copy 3 of 5.	Wait for the print ends.
Printing	The printer is printing.	Wait for the printer to return to a Ready status.
Processing	The printer is processing print job data.	Wait for the ends of processing.
Waiting for data	This message may displayed if: 1)a large file is being processed, 2)the network connection is slow, 3)a print job was not terminated correctly.	Wait for the printer to return to Ready status.
Warming up	Displayed during the Fuser warming up cycle.	Wait for the printer to reach a Ready status.
Loading Network	Loading Network.	Wait for the printer to return to a Ready state.

Table 6-2. The status of the printer

Message	Description	Corrective Action
Enter new password	Passwords are for use by System Administrators and Service Technicians only.	Contact your System Administrator for additional Information.
Enter new password again	Passwords are for use by System Administrators and Service Technicians only.	Contact your System Administrator for additional Information.
Paper Out Tray Name	The specified paper tray is out of Paper.	Load paper into the tray.
Enter system password	You must supply the system Password to gain access to the Selected menu item.	Contact your System Administrator if you need Access to menu items that are password protected.
Enter service password	You must provide the service Password to gain access to the Selected menu item.	Contact your authorized Service Technician if you need access to menu items that are password protected.
Lifting Tray Name	The specified tray is moving into the feed position.	Wait for the printer to return to a Ready status.
Tray x Active	Displayed using the input tray during printing.	-
Getting Time xxx.xxx.xxx	Getting the time	-
Invalid Time Server Address	The specified Time Server is invalid.	Check the Time Server address.
Insufficient disk space One Copy Job	Since the capacity of a hard disk space is insufficient for MOP, it prints 1 part printing.	Refer to “Appendix A MOP Limits” on page MOP Limits A-1.
Heater Off Mode	Heater off mode	*1
Sleep Mode	Sleep mode	*1
Preserving Parameters	The printer is saving user setting	Wait for the printer to return to a Ready state.

**1 : Heater Off Mode, Sleep Mode are canceled on condition that the following,*

(1) When printing status in the status of On-Line

(2) When push any key on OCP

(3) When counter of consumable counter reset, setting of paper etc. from Web

(4) When the printer status displays from Web

2. Printer Warning Message

When a problem not urgent as the stop, printer displays warning message on the status bar.

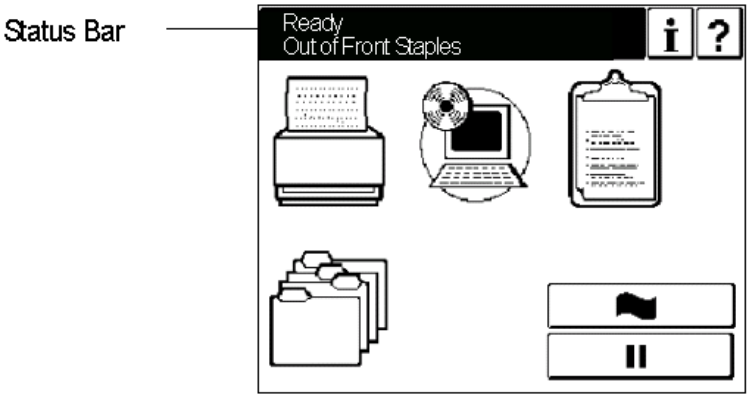
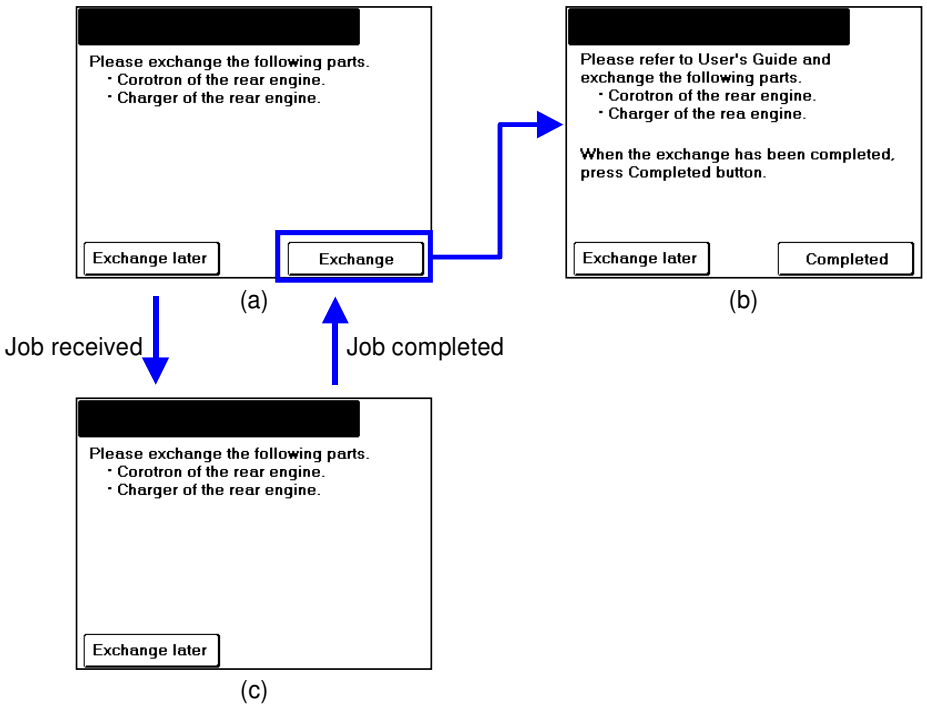


Table 6-3. Printer Warning Message

Message	Description	Corrective Action
PM Counter Warning	The time to check the printer is near. This message appear 390K pages.	-
PM Counter Exceed	The printer needs to be checked. This message appear 400K page.	Preventive Maintenance should be done. When Preventive Maintenance is done, the PM Counter should be reset (Setup / Service / Reset / PM Counter). Refer to “PM Counter Reset” on page 3-10.
Invalid Value	Incorrect value entered.	Re-enter value.
Invalid Password	Incorrect password entered.	Retry password. If incorrect, contact your System Administrator.
Out Of Front Staples	The front stapler unit is out of staples.	Replace the front staple cartridge.
Out Of Rear Staples	The rear stapler unit is out of staples.	Replace the rear staple cartridge.
Tray 1,2 or 3 Open	Self-explanatory.	Close the Tray.
Loading Fail Network	Loading Network Error	Confirm Network cable.
Toner Low, Replenish Toner	The toner is near empty.	Be sure you have a new toner bottle on hand. Printing will stop when the toner is empty.
Fuser warning (life) F/R	The fuser unit has been operated more than the specified time. F: Front Engine R: Rear Engine	Be aware that service maintenance is required when reaching the specified time.

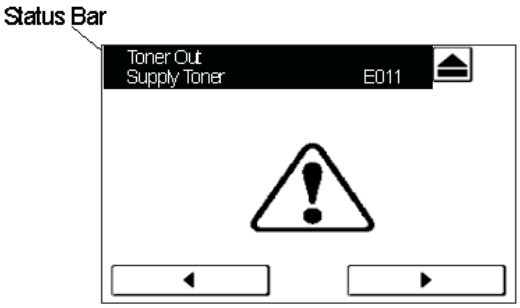


If the above screen (a) or (c) is displayed while the printer is in ready status, replace the following parts according to the User's Guide.

- •Charger of the rear engine
- •Corotron of the rear engine

3. Printer Error Message

The printer error will occur, printer display Error Message on Status Bar. Refer to section 6.9 about Print Engine and Interface Error (EC#xx). The error occurs by the Printer Engine when the error codes (Exxx) other than Table 6-6 are displayed. Refer to the Engine maintenance manual for the action method.



Switch	Function
▶ (Return / Ready)	Reset the Error and return to Ready status. But if Error is not corrective, the Error message displays again.
◀ (Before screen)	The Error is not corrective and return to Offline display.

Table 6-4. Printer Error Message

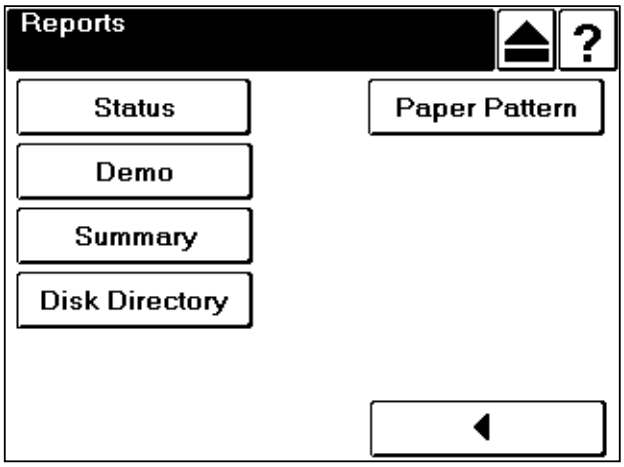
Message	Description	Corrective Action
Paper size invalid in tray x	Paper Size error for Test Print.	Cancel the job.
Paper weight invalid in tray x	Paper Weight error for Test Print.	Cancel the job.
Paper type invalid in tray x	Paper Type error for Test Print.	Cancel the job.
Invalid Combination 01 Cancel Job	In correct stacker choice requested. Can not deliver to upper tray from Inserter.	Cancel the job.
Tray 1,2 or 3 Load xxx (size)	The wrong size paper is loaded in the tray.	Load the specified tray with the requested size paper.
Tray 1,2 or 3 Load xxx (type) (size)	The wrong type paper is loaded in the tray.	Load the specified tray with the requested type paper.
Tray 1,2 or 3 Load xxx (weight) (size)	The wrong weight paper is loaded in the tray.	Load the specified tray with the requested weight paper.
MBT Load xxx	The wrong type paper is loaded in the MBT.	Load the MBT with the requested type paper.
Paper Unmath check Paper Information	Paper information does not match.	Set the proper paper information.
Any Tray Except MBT Load xxx	The wrong size paper is loaded in the except MBT.	Load the except MBT with the requested size paper.
Paper Jam Stacker Input	Paper jam in stacker input.	Removed the jammed paper. Refer to Engine Maintenance Manual.
Invalid Booklet #xx Clear Paper Path	The Booklet Finisher cannot perform the operation.(booklet)	Refer to User's Guide.
Invalid Booklet #xx Cancel Job	The Booklet Finisher cannot perform the operation.(booklet)	Refer to User's Guide.
Invalid Folder #xx Clear Paper Path	The Booklet Finisher cannot perform the operation.(folder)	Refer to User's Guide.
Invalid Folder #xx Cancel Job	The Booklet Finisher cannot perform the operation.(folder)	Refer to User's Guide.

Printing the Status Page

Print the Status Page to make sure that the interface between the printer and the controller is working properly.

Follow the steps below to print the Status Page.

1. Power on the printer and allow it to warm up.
2. Before proceeding, make sure that the printer is not in use.
3. Touch the Reports icon on the OCP to display the Reports menu (shown below).



4. Touch Status.

   The controller sends the Status Page to the printer and displays Ready.

5. Examine the quality of the printed Status Page to confirm that the connection between the controller and the printer is good.

   If the Status Page does not print at all or has a low-quality image, the controller board or printer interface cables may be faulty, or the printer may not be functioning properly. In these cases, you should first check controller board connections. If printing the Status Page still shows there is a problem, run the appropriate Custom diagnostics.

Checking Network Connections

Printing problems may arise if the network hardware or software is not set up properly or does not match network settings on the controller. Problems may also arise when printing from a specific application or printing a particular file.

Most of these problems show up as printing problems and do not necessarily indicate a controller malfunction. The customer's network administrator can eliminate many printing problems without requiring you to make a service call. The network administrator deals with:

- Print device error conditions
- Network connection problems that result in the printer not appearing in the list of printers on the customer's computers

NOTE:
If the printer does not appear in the list of printers on the network, there may be another device on the network with the same Ethernet hardware address.

- Conflicting network settings in Setup and on the customer's computers
- Printing problems caused by inappropriate Setup options
- Application-specific printing errors caused by missing or incorrectly installed printer description files

Printing to the Controller

If the customer can print a controller Status Page but cannot print a job from a computer on the network, you may have to make a service call. However, first make sure the network administrator has done the following:

- Checked all components of the network including cables, connectors, terminators, network adapter boards, and network drivers.
- Activated the network and used it to communicate with other printers.
- Confirmed that the applicable network settings in Setup (such as IP address, Subnet mask, Gateway address, and HTTP port) match the settings used in the network.

When you make a service call, check the controller ports on the back panel of the printer to make sure that the appropriate network connection is in place.

Print quality problems are difficult to trace. Before you try to troubleshoot print quality problems, print a test page to make sure that the printer does not need servicing or adjusting. Also, make sure the correct paper is being used in the printer.

Controller Error Codes

An extensive system of tests and checks are performed by the printer during the power-up cycle and normal operations. Most errors cause a message or an error code to be displayed. This section lists the errors with possible solutions.

Print Engine and Interface Error Codes (EC)

Print engine error codes show errors and conditions that occur during communications between the controller and print engine. In some cases the errors may be cleared by pressing Continue. Printer operations may continue, but data may be lost. All other EC errors are fatal errors that require the cycling of printer power. The following should be done to attempt to correct the problem.

1. Make note of the condition of the printer, including where the printer is located, what job was being printed, and other observed issues.
2. Press “Continue” on the OCP. If the printer goes to “Ready” go to Step 4.
3. Power cycle the printer.
4. Once the system is in “Ready” mode, use the Web Interface to download the Error, Event, and Software logs.
5. After analysis a software upgrade or hardware change may be required.

Table 6-2. Terms Used in Error Codes

Term	Definition
CE	Controller.
CPF	Paper feed.
Cx..	Controller-generated signals.
DD	Device data.
DORMANT	Control command. CE issues this to PR which sets the Wait Status.
DSE	Stacker exit (paper has arrived at specific stacker).
DTPD	Top of paper, Duplex. (The PR is Print Data Acceptable Condition.)
DTPS	Top of paper, Simplex. (The PR is Print Data Acceptable Condition.)
Dx..	Engine-generated signals.
FIFO	Memory for buffer used by CE Board
PR	Printer.

Table 6-3. Engine/Controller Interface Error Codes

OCP Line 1	OCP Line 2	Error Name	Brief Description
Call for Service	EC#01	EC_NO_DETAIL_ERROR_CODE	Invalid error code has been reported by the Engine (error code is other than xEXXX).
Call for Service	EC#02	EC_ACTIVATE_TIMEOUT_ERROR	Activate time-out is detected (99 seconds after the Activate command is sent).
Call for Service	EC#03	EC_DORMANT_TIMEOUT_ERROR	DORMANT bit is not set after the DORMANT command is sent
Call for Service	EC#04	EC_MODE_SET_TIMEOUT_ERROR	DUPLEX/SIMPLEX mode is not set after the DUPLEX/SIMPLEX command is sent.
Call for Service	EC#05	EC_DTPS_TIMEOUT_ERROR	DTPS time-out is detected (15 seconds after a Pick command or after the previous DTPS).
Call for Service	EC#06	EC_DTPD_TIMEOUT_ERROR	DTPD time-out is detected (15 seconds after a DTPS or the previous DTPD.
Call for Service	EC#07	EC_EOP_TIMEOUT_ERROR	End of Page has not been reported by the engine device driver after the previous DTPx receipt.
Call for Service	EC#08	EC_DSE_TIMEOUT_ERROR	DSE time-out is detected (100 seconds after the previous DTPx).
Call for Service	EC#09	EC_PRINT_TIMEOUT_ERROR	PRINT time-out is detected (90sec after the last CPF signal).
Call for Service	EC#0A	EC_PAGE_OFFSET_ERROR	Invalid HV print position data is set by the Engine.
Call for Service	EC#0B	EC_NO_PAPER_SIZE_MATCH_ERROR	No right size paper is loaded in designated hoppers.
Call for Service	EC#0C	EC_NO_PAPER_TYPE_MATCH_ERROR	No right type paper is loaded in designated hoppers.
Call for Service	EC#10	EC_BAD_PJD_PARAMETER_ERROR	Invalid print parameter is set in PAGEOBJ.
Call for Service	EC#11	EC_NO_HOPPER_MATCH_ERROR	No proper hopper is designated in PAGEOBJ.
Call for Service	EC#12	EC_NO_STACKER_MATCH_ERROR	No proper stacker is designated in PAGEOBJ.
Call for Service	EC#13	EC_CANNOT_FIND_PBLK_ERROR	There is no PBLK in the fifo.
Call for Service	EC#14	EC_FIFO_OVERFLOW_ERROR	There is no free space in fifo to put a new sheet.
Call for Service	EC#15	EC_IMAGE_LOCK_ERROR	Image lock error is detected.
Call for Service	EC#16	EC_IMAGELOCK_TIMEOUT_ERROR	Image lock time-out is detected (60 sec.).
Call for Service	EC#18	EC_INVALID_COMMAND_ERROR	Invalid command has been received by the Engine.

Table 6-3. Engine/Controller Interface Error Codes (Continued)

OCP Line 1	OCP Line 2	Error Name	Brief Description
Call for Service	EC#19	EC_ENGINE_CODE_READ_ERR	Engine micro code file read error is detected.
Call for Service	EC#20	EC_HARDWARE_INITIALIZE_ERROR	Engine Adapter card failed to be initialized.
Call for Service	EC#21	EC_OVERRUN _ERROR	Overrun error is detected on a receiving serial data (DD-data).
Call for Service	EC#22	EC_FRAMING_ERROR	Framing error is detected on a receiving serial data (DD-data).
Call for Service	EC#23	EC_PARITY ERROR	Parity error is detected on a receiving serial data (DD-data).
Call for Service	EC#24	EC_DRIVER_TIMEOUT_ERROR	DD time-out is detected by the device driver with the time of 100 ms.
Call for Service	EC#25	EC_PCI_TARGET_ABORT_ERROR	PCI Target Abort error is detected.
Call for Service	EC#26	EC_PCI_MASTER_ABORT_ERROR	PCI Master Abort error is detected.
Call for Service	EC#27	EC_DECOMPRESSION_ERROR	Decompression error is detected.
Call for Service	EC#28	EC_DIOF_ERROR	Decompression Input FIFO Overflow is detected.
Call for Service	EC#29	EC_DOUF_ERROR	Decompression Output FIFO Overflow is detected.
Call for Service	EC#2A	EC_BD_CHECK_ERROR	Beam Detect error is detected.
Call for Service	EC#2B	EC_BD_GAP_ERROR	Beam Detect Gap error is detected.
Call for Service	EC#2C	EC_SFFEMP_ERROR	Synchronous FIFO Empty error is detected.
Call for Service	EC#2D	EC_PRINT_CLOCK_ERROR	Print Clock error is detected.
Call for Service	EC#2E	EC_SFFRD_ERROR	Synchronous FIFO Read error is detected.
Call for Service	EC#2F	EC_DTPS_FIFO_EMPTY_ERROR	DTPS FIFO Empty error is detected.
Call for Service	EC#30	EC_DTPD_FIFO_EMPTY_ERROR	DTPD FIFO Empty error is detected.
Call for Service	EC#31	EC_DTPS_FIFO_FULL_ERROR	DTPS FIFO Full error is detected.
Call for Service	EC#32	EC_DTPD_FIFO_FULL_ERROR	DTPD FIFO Full error is detected.
Call for Service	EC#33	EC_BUSY_TIMEOUT_ERROR	The marking engine did not clear a busy condition within the allotted time.
Call for Service	EC#38	EC_OVERFLOW_ERROR	Invalid serial data (DD data) is detected.I
Call for Service	EC#39	EC_READ_ERROR	Controller program error
Call for Service	EC#40	EC_UNDEFINED_ERROR	
Call for Service	EC#50(x)	EC_DISK_IMAGE_ERROR	Image data error on disk.

Table 6-3. Engine/Controller Interface Error Codes (Continued)

OCP Line 1	OCP Line 2	Error Name	Brief Description
Call for Service	EC#51	EC_DTPS_BADPAGE_ORDER_ERROR	Controller program error
Call for Service	EC#52	EC_DTPD_BADPAGE_ORDER_ERROR	Controller program error
Call for Service	EC#53	EC_DTPS_LOCK_COUNT_ERROR	Controller program error
Call for Service	EC#54	EC_DTPD_LOCK_COUNT_ERROR	Controller program error
Call for Service	OP#01	OP#01	OCP Error
Call for Service	OP#02	OP#02	OCP Error
Call for Service	Task Exit	Task Exit	Controller program error.
Call for Service	PPC Exception	PPC Exception	Controller program error.
Call for Service	PCL Font load error	PCL Font load error	Font load error.
Controller Memory Error	-	Check Memory	Controller Memory Error. (256MB of memory is not installed.)
Controller Version Error	-	Check Version	Controller Version Error. (Controller version of Front and Rear is different.)
Call for Service	HDD Error	HDD Error	HDD access error.
Call for Service	NMI	NMI	Controller hardware error.
Suspended Task	-	Suspended Task	Controller Program error.
Serial Communication Error	-	Serial Communication Error	The Front Engine and the Rear Engine are not taken to synchronize.
Call for Service	BR#11	BR#11	An error is detected during Restore. Restore HDD Data: Revision mismatch
Call for Service	BR#12	BR#12	An error is detected during Restore. Restore HDD Data: No backup data
Call for Service	BR#13	BR#13	An error is detected during Restore. Restore HDD Data: Backup data read error
Call for Service	BR#14	BR#14	An error is detected during Restore. Restore HDD Data: Data write error
Call for Service	BR#15	BR#15	An error is detected during Restore. Restore HDD Data: Insufficient memory
Call for Service	BR#16	BR#16	An error is detected during Restore. Restore HDD Data: Restore time write error
Call for Service	BR#21	BR#21	An error is detected during Restore. Restore Engine Data: No backup data
Call for Service	BR#22	BR#22	An error is detected during Restore. Restore Engine Data: Backup data read error

Table 6-3. Engine/Controller Interface Error Codes (Continued)

OCP Line 1	OCP Line 2	Error Name	Brief Description
Call for Service	BR#23	BR#23	An error is detected during Restore. Restore Engine Data: Data write error
Call for Service	BR#24	BR#24	An error is detected during Restore. Restore Engine Data: Restore time write error
Call for Service	BR#31	BR#31	An error is detected during Restore. Restore Controller Data: No backup data
Call for Service	BR#32	BR#32	An error is detected during Restore. Restore Controller Data: Data read error
Call for Service	BR#33	BR#33	An error is detected during Restore. Restore Controller Data: Data write error
Call for Service	BR#34	BR#34	An error is detected during Restore. Backup Controller Data: Restore time write error
Call for Service	BR#35	BR#35	An error is detected during Restore. Restore Click Charge Mode4: No backup data in HDD
Call for Service	BR#36	BR#36	An error is detected during Restore. Restore Click Charge Mode4: Data read error from HDD
Call for Service	BR#37	BR#37	An error is detected during Restore. Restore Click Charge Mode4: Data write error
Call for Service	BR#38	BR#38	An error is detected during Restore.Restore Click Charge Mode4: Data write error to CPxxx
Call for Service	BR#39	BR#39	An error is detected during Restore. Restore Click Charge Mode4: Restore time write error
Call for Service	BR#41	BR#41	An error is detected during Backup. Backup HDD Data: Data compression error
Call for Service	BR#42	BR#42	An error is detected during Backup. Backup HDD Data: Data read error
Call for Service	BR#43	BR#43	An error is detected during Backup. Backup HDD Data: Backup data write error
Call for Service	BR#44	BR#44	An error is detected during Backup. Backup HDD Data: Backup time write error
Call for Service	BR#45	BR#45	An error is detected during Backup. Backup HDD Data: Revision mismatch
Call for Service	BR#46	BR#46	An error is detected during Backup. Backup HDD Data: Backup time mismatch
Call for Service	BR#47	BR#47	An error is detected during Backup. Backup HDD Data: Backup time incorrect on CE Board (184) Ass'y (xxxx)
Call for Service	BR#48	BR#48	An error is detected during Backup. Backup HDD Data: Backup time incorrect into HDD (184DP) Ass'y

Table 6-3. Engine/Controller Interface Error Codes (Continued)

OCP Line 1	OCP Line 2	Error Name	Brief Description
Call for Service	BR#51	BR#51	An error is detected during Backup. Backup Engine Data: Data read error
Call for Service	BR#52	BR#52	An error is detected during Backup. Backup Engine Data: Backup data write error
Call for Service	BR#53	BR#53	An error is detected during Backup. Backup Engine Data: Backup time write error
Call for Service	BR#54	BR#54	An error is detected during Backup. Backup Engine Data: Backup time mismatch
Call for Service	BR#55	BR#55	An error is detected during Backup. Backup Engine Data: Backup time incorrect into HDD (184DP) Ass'y
Call for Service	BR#56	BR#56	An error is detected during Backup. Backup Engine Data: Backup time incorrect into CPxxx Ass'y
Call for Service	BR#61	BR#61	An error is detected during Backup. Backup Controller Data: Data read error
Call for Service	BR#62	BR#62	An error is detected during Backup. Backup Controller Data: Backup data write error
Call for Service	BR#63	BR#63	An error is detected during Backup. Backup Controller Data: Backup time write error
Call for Service	BR#64	BR#64	An error is detected during Backup. Backup Controller Data: Backup time mismatch
Call for Service	BR#65	BR#65	An error is detected during Backup. Backup Controller Data: Backup time incorrect into HDD (184DP) Ass'y
Call for Service	BR#66	BR#66	An error is detected during Backup. Backup Controller Data: Backup time incorrect on CE Board(184) Ass'y (xxxx)
Call for Service	BR#67	BR#67	An error is detected during Backup.Backup Click Charge Mode4: Data read error
Call for Service	BR#68	BR#68	An error is detected during Backup.Backup Click Charge Mode4: Data write error to CPxxx
Call for Service	BR#69	BR#69	An error is detected during Backup. Backup Click Charge Mode4: Data write error to HDD
Call for Service	BR#6A	BR#6A	An error is detected during Backup. Backup Click Charge Mode4: Backup time write error
Call for Service	BR#6B	BR#6B	An error is detected during Backup. Backup Click Charge Mode4: Backup time incorrect into Controller

Table 6-3. Engine/Controller Interface Error Codes (Continued)

OCP Line 1	OCP Line 2	Error Name	Brief Description
Call for Service	BR#6C	BR#6C	An error is detected during Backup. Backup Click Charge Mode4: Backup time incorrect into CPxxx
Call for Service	BR#6D	BR#6D	An error is detected during Backup. Backup Click Charge Mode4: Backup time incorrect into HDD
Call for Service	BR#6E	BR#6E	An error is detected during Backup. Backup Click Charge Mode4: Backup time mismatch into HDD
Call for Service	BR#71	BR#71	An error is detected during Restore. Restore Click Charge Mode4: No backup data in CPxxx
Call for Service	BR#72	BR#72	An error is detected during Restore. Restore Click Charge Mode4: Backup data read error from CPxxx
Call for Service	BR#73	BR#73	An error is detected during Restore.Restore Click Charge Mode4: Data write error
Call for Service	BR#74	BR#74	An error is detected during Restore. Restore Click Charge Mode4: Backup data write error to HDD
Call for Service	BR#75	BR#75	An error is detected during Restore. Restore Click Charge Mode4: Restore time write error to CPxxx
Call for Service	NVRAM ERROR	NVRAM ERROR	NVRAM DATA ERROR.
Invalid Mac Address	-	INVALID MAC ADDRESS	NVRAM DATA ERROR.

Corrective Action Call for Service Error

EC#01 / EC#02 / EC#03 / EC#04 / EC#18 / EC#19 / EC#21 / EC#22 / EC#23 / EC#2F / EC#30 / EC#33 / EC#38 / BR#23 / BR#38 / BR#51 / BR#53 / BR#68 / BR#71 / BR#72 / BR#75

Problem Cause	Corrective Action
1. Disconnected cable or connector is not properly connected	Replace CE I/F Cable or reattach the connector.
2. Faulty CE Board	Replace CE board
3. Faulty CPxxx Assy	Replace CPxxx Assy.

EC#05 / EC#06

Problem Cause	Corrective Action
1. Faulty sensor.	Check timing sensor Replace timing sensor
2. Disconnected cable or connector is not properly connected	Replace CE I/F cable assy or reattach the connector
3. Faulty CD Board	Replace CE board
4. Faulty CPxxx Assy.	Replace CP Assy.

EC#07 / EC#0A / EC#0C / EC#20 / EC#25 / EC#26 / EC#27 / EC#28 / EC#29 / EC#2D / EC#2E / BR#12 / BR#13 / BR#16 / BR#33 / BR#37 / BR#43 / BR#61 / BR#63 / BR#67 / BR#6A / BR#73 / Invalid Mac Address / NVRAM ERROR

Problem Cause	Corrective Action
1. Faulty CE Board	Replace CE Board

EC#08

Problem Cause	Corrective Action
1. Faulty Finisher P/K	Change Finisher P/K
2. Disconnected cable or connector is not properly connected	Replace CE I/F cable assy or reattach the connector.
3. Faulty CE Board	Replace the CE Board
4. Faulty CP Assy	Replace CP Assy.

EC#09

Problem Cause	Corrective Action
1. Faulty CP Assy	Replace CP Assy.

EC#0B

Problem Cause	Corrective Action
1. Disconnected cable or connector is not properly connected	Replace CE I/F cable assy or reattach the connector.
2. Faulty CE Board	Replace the CE Board

EC#10

Problem Cause	Corrective Action
1. Disconnected cable or connector is not properly connected	Replace CE I/F cable assy or reattach the connector.
2. Faulty DIMM	Replace DIMM Assy.
3. Faulty CE Board	Replace the CE Board

EC#11 / EC#12

Problem Cause	Corrective Action
1. Hopper or Stacker that was chosen is not connected.	Cancel job, choose the correct hopper or stacker.
2. Disconnected cable or connector is not properly connected	Replace CE I/F cable assy or reattach the connector.
3. Faulty SDRAM	Replace DIMM Assy.
4. Faulty CE Board	Replace the CE Board

EC#13 / EC#14 / EC#15 / EC#16 / EC#31 / EC#32 / EC#39 / EC#40 / EC#51 / EC#52 / EC#53 / EC#54 / Task Exit / PPC Exception / OP#01 / OP#02 / BR#15 / NMI / Suspended Task

Problem Cause	Corrective Action
1. Faulty DIMM	Replace DIMM Assy.
2. Faulty CE Board	Replace the CE Board

EC#2A / EC#2B

Problem Cause	Corrective Action
1. Paper Jam	Remove jammed paper. Press ▶ button on the OCP.
2. Disconnected cable or connector is not properly connected	Replace CE I/F cable assy or reattach the connector.
3. Faulty CE Board	Replace the CE Board
4. Faulty OCxxx Assy	Replace OCxxx Assy.

EC#24

Problem Cause	Corrective Action
1. Faulty Power Supply	Replace Engine Power Supply.
2. Disconnected cable or connector is not properly connected	Replace CE I/F cable assy or reattach the connector.
3. Faulty CE Board	Replace the CE Board
4. Faulty OCxxx Assy	Replace OCxxx Assy.

PCL Font Load Error

Problem Cause	Corrective Action
1. Faulty HDD Assy.	Replace HDD Assy.

Controller Memory Error

Problem Cause	Corrective Action
1. Faulty SDRAM	Replace DIMM Assy.

Controller Version Error

Problem Cause	Corrective Action
1. Faulty HDD Assy	Replace HDD Assy

HDD Error / BR#14 / BR#21 / BR#22 / BR#24 / BR#31 / BR#32 / BR#34 / BR#42 / BR#44 / BR#52 / BR#62 / BR#69 / BR#74

Problem Cause	Corrective Action
1. HDD Assy is not properly connected.	Reattach the HDD Assy.
2. Faulty HDD Assy	Replace HDD Assy

EC#50(x)

Problem Cause	Corrective Action
1. Disconnected cable or connector is not properly connected	Replace IDE Cable Assy or reattach the connector.
2. Faulty HDD Assy	Replace HDD Assy
3. Faulty CE Board	Replace CE Board
4. Faulty SDRAM	Replace DIMM Assy

NMI

Problem Cause	Corrective Action
1. Faulty CE Board	Replace CE Board
2. Faulty SDRAM	Replace DIMM Assy.

BR#4x / BR#5x / BR#6x

Problem Cause	Corrective Action
1. The previous backup was not completed.	If any part of HDD Assy, CE Board and CPxxx Assy is not replaced, perform the following menu* to backup “all”.

* : Setup / Service / Backup/Restore / Front or Rear / Backup / All

IM#01 / IM#02

Problem Cause	Corrective Action*
1. Connector is not properly connected.	Check the connection of network cable between Server and Printer.

* : When IM#XX error occurs, incorrect result might be printed. Be sure to check the printed result of the printing job or the last job. Then restart print from the necessary page

BR#56 / BR#6C

Problem Cause	Corrective Action
1. Disconnect cable or Connector is not properly connected.	1.Replace CE I/F cable Ass'y or reattach a connector correctly.
2. Faulty CPxxx Ass'y.	1.Replace CPxxx Ass'y.
3. Engine Data is not restored after replacing CPxxx Ass'y.	1.Restore "Engine data".
4. Controller data is not backed up after replacing CPxxx Ass'y	1.Back up "Controller".

BR#11 / BR#45

Problem Cause	Corrective Action
1. Revision mismatch between backup HDD data and new replacing HDD (184DP) Ass'y.	1.Replace CE I/F Cable Ass'y or reattach a connector correctly
	2.Set the user settings manually and backup the "HDD data".
2. Revision mismatch between backup HDD data and new upgrading the system software.	1.Follow the procedure of upgrading the System Software.
3. HDD data is not backed up after replacing CE Board (184) Ass'y (xxxx).	1.Back up "HDD data".

BR#46 / BR#54 / BR#64 / BR#6E

Problem Cause	Corrective Action
1. HDD data is not backed up after replacing CE Board (184) Ass'y (xxxx).	1.Back up "HDD data".
2. HDD data is not restore after replacing HDD (184DP) Ass'y.	1.Restore "HDD data".
3. Engine data is not backed upafter replacing HDD (184DP) Ass'y.	1.Back up "Engine data".
4. The Engine Data is not restored after replacing CPxxx Ass'y.	1.Restore "Engine data".
5. Controller data is not backed up after replacing HDD (184DP) Ass'y.	1.Back up "Controller".
6. Controller data is not restore after replacing CE Board (184) Ass'y (xxxx).	1.Restore "Controller".

BR#41 / BR#47 / BR#66 / BR#6B

Problem Cause	Corrective Action
1. Faulty CE Board (184) Ass'y (xxxx).	1.Replace CE Board (184) Ass'y (xxxx).
2. HDD data is not backed up after replacing CE Board (184) Ass'y (xxxx).	1.Back up "HDD data".
3. Controller data is not restore after replacing CE Board (184) Ass'y (xxxx).	1.Restore "Controller".
4. HDD data compression error.	1.Replace CE Board (184) Ass'y (xxxx).

BR#48 / BR#55 / BR#65 / BR#6D

Problem Cause	Corrective Action
1. HDD (184DP) Ass'y is not properly connented.	1.Reattached HDD (184DP) Ass'y correctly.
2. Faulty HDD (184DP) Ass'y.	1.Replace HDD (184DP) Ass'y.
3. HDD data is not restored after replacing HDD (184DP) Ass'y.	1.Restore "HDD data".
4. Engine data is not backed up after replacing HDD (184DP) Ass'y.	1.Back up "Engine data".
5. Controller data is not backed up after replacing HDD (184DP) Ass'y.	1.Back up "Controller".
6. HDD data is not backed up after executing "Factory Default".	1.Back up "HDD data".

BR#35 / BR#36 / BR#39

Problem Cause	Corrective Action
1. No Click Charge Mode4 backup data in HDD 2.Click Charge Mode4 in HDD read error 3.Restore time write error	1. If HDD and CPxxx is not exchanged at the same time, perform Restore Click Charge Mode4 and exchange the HDD. 2. If HDD and CPxxx is exchanged at the same time, perform exchange the HDD without Restore of Click Charge Mode4.

Appendix A
MOP Limits

General

There are many complex factors in calculating the estimated MOP limits. The disk partitioning scheme, fragmentation, page block boundaries, edge-to-edge, printer emulation, and sheet/page object overhead all affect the actual MOP limit as seen by the end user. Therefore, the stated MOP limits are defined in terms of "as least this many" sheets per MOP set.

> ***NOTE:***
> *A sheet is defined as a physical paper sheet. Although a Duplex sheet may print data on the backside of the sheet, it is still considered (1) physical sheet in this context.*

For example, in the table that follows, a Ledger/Simplex MOP job using a 40GB disk, the MOP limit is stated as 1001 sheets. Therefore, the user can print a MOP job with at least 1001 sheets per MOP set. A MOP job exceeding this 1001 sheet estimate is not guaranteed to MOP successfully (i.e., it will be converted into a single copy job). A Ledger/Duplex MOP job could have at least 501 sheets and still MOP successfully.

The MOP limits for the printer listed in the following table are for the 40GB (or larger) hard disk.

Important Information

- When printing a job with mixed paper sizes, the largest paper size in the job should be used when consulting the table.
- When printing a job with a custom paper size, the next larger size (in area) should be used when consulting the table.
- When printing a job with Letter or A4 Tab Stock, use the values for Letter or A4, respectively. When printing a job with *only* Tab Stock, reduce the stated sheet count by 6%.
- SEF and LEF paper sizes have the same values and, therefore, are listed as a single paper size.
- There is a maximum of 1500 physical sheets per MOP set. This is due to the required overhead for each page. That is why you see (1500) listed under several page sizes.

Table A-1. MOP Limits

Paper Size	Physical Dimensions	Simplex (Pages) or 184 Mode	Duplex (Pages)
		40GB+	40GB+
Super B	12” x 18”	867	434
Ledger	11” x 17”	1001	501
Legal	8.5” x 14”	1500	787
Folio	8.5” x 13”	1500	848
Letter	8.5” x 11”	1500	1002
Executive	10.5” x 7.25”	1500	1229
Statement	5.5” X 8.5”	1500	1500
A3	297 x 420 mm	970	485
B4	257 x 364 mm	1297	649
A4	210 x 297 mm	1500	964
B5	257 x 182 mm	1500	1289
A5	149 x 210 mm	1500	1500
Custom	*Use the next larger paper size (in area) to estimate MOP limits for custom size paper.*		

Appendix B
Work procedure of Backup/Restore

This Appendix shows the procedure of Backup/Restore when exchanging each part of HDD (184DP) Ass'y, CE Board (184) Ass'y(xxxx), and CPxxx Ass'y. Perform Backup/Restore according to the following procedure. In the case where the three above-mentioned parts are exchanged alone, respectively, and the case where each is exchanged simultaneously, since procedures differ, please perform Backup/Restore suitable for exchange work.

Case1:Change the CE Board (184) Ass'y(xxxx)

(1) Setup / Service / Backup/Restore / Font or Rear / Restore / Controller

(2) Setup / Service / Backup/Restore / Font or Rear / Backup / HDD Data

Case2:Change the HDD (184DP) Ass'y

-In cace of same Controller revision replacement

(1) Setup / Service / Backup/Restore / Font or Rear / Restore / HDD Data

(2) Setup / Service / Backup/Restore / Font or Rear / Backup / Controller

(3) Setup / Service / Backup/Restore / Font or Rear / Backup / Engine Data

-In cace of differ Controller revision replacement

(1) Setup / Service / Backup/Restore / Font or Rear / Backup / All

Case3:Change the CP Ass'y

(1) Setup / Service / Backup/Restore / Font or Rear / Restore / Engine Data

(2) Setup / Service / Backup/Restore / Font or Rear / Backup / Controller

Case4:Change CE Board (184) Ass'y(xxxx) and HDD (184DP) Ass'y

(1) Setup / Service / Backup/Restore / Font or Rear / Backup / All

> ***NOTE:***
> *When CE Board (184) Ass'y(xxxx) and HDD (184DP) Ass'y are exchanged simultaneously, The data of the controller disappears. Because HDD data and controller data are not succeeded.*

Case5:Change the CE Board (184) Ass'y(xxxx) and CPxxx Ass'y

(1) Setup / Service / Backup/Restore / Font or Rear / Restore / Engine data

(2) Setup / Service / Backup/Restore / Font or Rear / Restore / Controller

(3) Setup / Service / Backup/Restore / Font or Rear / Backup / HDD Data

Case6:Change CPxxx Ass'y and HDD (184DP) Ass'y

-In cace of same Controller revision replacement

(1) Setup / Service / Backup/Restore / Font or Rear / Restore / HDD Data

(2) Setup / Service / Backup/Restore / Font or Rear / Backup / Controller

(3) Setup / Service / Backup/Restore / Font or Rear / Backup / Engine Data

-In cace of differ Controller revision replacement

(1) Setup / Service / Backup/Restore / Font or Rear / Backup / All

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NOTE:

When CPxxx Ass'y and HDD (184DP) Ass'y are exchanged simultaneously, The data of the printer engine data disappears. Because printer engine in CPxxx Ass'y are not succeeded.

Case7:Change CE Board (184) Ass'y(xxxx), HDD (184DP) Ass'y and CPxxx Ass'y

(1) Setup / Service / Backup/Restore / Font or Rear / Backup / All

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NOTE:

When CE Board (184) Ass'y(xxxx), HDD (184DP) Ass'y and CPxxx Ass'y exchanged simultaneously, all data will disappear, Because all data in the printer are not succeeded.
